# Charles University in Prague

## Faculty of Arts

## Institute of Classical Archaeology


**Diploma thesis**


**Adam Pažout**


# Spatial Analysis of Early Roman Fortifications in Northern Negev

# Prostorová analýza raně římských fortifikací v severním Negevu

**Prague 2015** **Thesis Advisor: PhDr. Ladislav Stančo, PhD.**

## Acknowledgment

I would like to express my thanks to my advisor PhDr. Ladislav Stančo, PhD., who guided me through difficult task of writing this thesis and who always provided me with important counsels. Moreover, I would like to thank Michael Eisenberg, PhD. from University of Haifa who shared his views and knowledge about Hellenistic and Roman fortifications in Israel with me and helped me with my studies of this topic in Israel.

Last, but not least, I have to thank all who helped me and supported me in past three years in various ways – my family, friends and scholars in Prague, Haifa and Tel Aviv.

*Prohlašuji, že jsem diplomovou práci vypracoval samostatně, že jsem řádně citoval všechny použité prameny a literaturu a že práce nebyla využita v rámci jiného vysokoškolského studia či k získání jiného nebo stejného titulu.*

*V Praze dne*

## Abstract

The present thesis aims to answer questions regarding function of many Early Roman fortifications investigated in past decades in the region of Northern Negev, i.e. in the valley of Nahal Beersheva between modern towns of Arad and Beersheva. In past, various interpretations were provided, often conflicting with each other and therefore author sought to look at this topic from different point of view, using GIS based tools to explore spatial relationships between the fortifications and settlements in terms of intervisibility (for military signaling and control) and relation to road-system. Moreover, Early Roman Judaea was unstable region with high prevalence of banditry and thus assumption is that military responded to these threats. The results of viewshed analysis (intervisiblity) and least-cost path (reconstruction of road system) can roughly divide the region in question to the zones. In the first zone, most of the fortifications are intervisible and also exercise control of settlements and roads; while in the second zone forts cannot communicate using signals but are located on important roads providing water, lodging and security to travelers. It leads to conclusion that these forts served as stations of detached military units concerned with policing and administration (in both zones) and as road-stations or “caravanserais” (in the second zone).

## Keywords

Early Roman period, Judaea, fortifications, spatial analysis, Roman army, road-stations

## Abstrakt

Tato práce se snaží zodpovědět otázky týkající se funkce raně římských fortifikací, které byly v minulých desetiletích zkoumány v regionu severního Negevu, tedy v údolí Nahal Beersheva mezi dnešními městy Arad a Beerševa. V minulosti byly navrhovány různé, často protichůdné, interpretace, a tudíž se autor pokouší podívat se na problematiku z jiného pohledu a využívat GIS nástroje pro prostorovou analýzu zkoumající vztah mezi fortifikacemi a sídlišti v kategoriích vzájemné viditelnosti (kvůli případnému použití signalizace a kontroly) a vztahu k silničnímu systému. Navíc, raně římská Judea byla nestabilní zemí s endemickým výskytem banditismu a je možné se proto domnívat, že armáda reagovala na tato nebezpečí. Výsledky analýz, viewshed – viditelnosti a least-cost path – rekonstrukce silničního systému, nám dovolují rozdělit region do dvou zón. V první zóně je většina pevností navzájem viditelných a navíc kontrolují i sídliště a cesty; zatímco ve druhé zóně spolu fortifikace nemohou komunikovat za použití signalizace, ale zároveň jsou umístěny na důležitých komunikacích, kde zajišťují vodu, ubytování a bezpečí pro cestovatele. To nás vede k závěru, že tyto pevnosti sloužili jako stanice detašovaných armádních jednotek s úkolem spravovat a strážit oblast (v obou zónách), popř. jako „road-station“ či „karavanserai“ (ve druhé zóně).

## Klíčová slova

Raná doba římská, Judea, fortifikace, prostorová analýza, Římské vojsko, „road-stations“

## Table of contents

**Table of contents** ..... 15

**Introduction** ..... 10

**Geography and environmental conditions in the Negev** ..... 11

**History of research** ..... 12

**Goals and methodology** ..... 14

**Structure of the thesis and general remarks** ..... 16

**1 Historical background** ..... 18

**1.1 Hasmonaeans and Herod** ..... 18

**1.2 Sons of Herod** ..... 22

**1.3 Praefects of Judaea 6-41 CE** ..... 25

**1.4 Agrippa I (37-44 CE) and Agrippa II (ca. 50-92/3 CE)** ..... 26

**1.5 Procurators of Judaea (44-66 CE)** ..... 29

**1.6 Great Jewish revolt (66-73/4 CE)** ..... 31

**1.7 In between the wars and Bar-Kochba rebellion (74-135 CE)** ..... 35

**1.8 Security threats** ..... 37

**1.9 Disposition of the army** ..... 38

**2 Fortifications** ..... 41

**2.1 Definition of fortifications** ..... 41

**2.2 Sites** ..... 43

*2.2.1 Tel Arad* ..... 43

*2.2.2 Tel Aroer* ..... 45

*2.2.3 Tel Beersheva* ..... 47

*2.2.4 Tel Malhata* ..... 49

*2.2.5 Horvat Salit* ..... 51

*2.2.6 Horvat Uza* ..... 52

*2.2.7 Nahal Yattir site* ..... 55
**2.3 Surveyed sites** ..... 56
*2.3.1 Harei Anim* ..... 57
*2.3.2 Nahal Anim* ..... 57
*2.3.3 Nahal Beersheva* ..... 57
*2.3.4 Beer Tarshan (b)* ..... 57
*2.3.5 Horvat Bikhra* ..... 58
*2.3.6 Givat Meitar* ..... 58
*2.3.7 Nahal Soa* ..... 58
*2.3.8 Tuwaiyil el-Mahdhi* ..... 58
*2.3.9 Nahal Yattir site 2* ..... 59
*2.3.10 Nahal Yattir site 3* ..... 59
**2.4 Other military installations** ..... 59
*2.4.1 Tel Ira* ..... 60
*2.4.2 Uncertain sites* ..... 61
**2.5 Assessment of the sites** ..... 62
**2.6 Analogous sites from Israel** ..... 63
**3 Settlements** ..... 66
**3.1 Sites** ..... 66
*3.1.1 Harei Anim* ..... 66
*3.1.2 Nahal Anim* ..... 66
*3.1.3 Nahal Anim 2* ..... 67
*3.1.4 Khirbet Amra* ..... 67
*3.1.5 Tel Aroer* ..... 67
*3.1.6 Beer Tarshan (a)* ..... 67
*3.1.7 Nahal Beersheva* ..... 68

*3.1.8 Nahal Hur* ..... 68
*3.1.9 Horvat Hur* ..... 68
*3.1.10 Horvat Hur 2* ..... 69
*3.1.11 Tel Masos* ..... 69
*3.1.12 Nahal Molada* ..... 69
*3.1.13 Nahal Qina* ..... 69
*3.1.14 Tel Shoqet* ..... 70
*3.1.15 Horvat Soa/Harei Anim* ..... 70
*3.1.16 Nahal Soa* ..... 70
*3.1.17 Khirbet Tatrit* ..... 71
*3.1.18 Nahal Yattir 2* ..... 71
*3.1.19 Nahal Yattir 3* ..... 71
*3.1.20 Nahal Yeshua* ..... 71
*3.1.21 Nahal Yeshua 2* ..... 72
*3.1.22 Horvat Yittan* ..... 72
**3.2 Assessment** ..... 72
**4 Spatial analysis** ..... 74
**4.1 Spatial analysis in archaeology** ..... 74
**4.2 Goals, methodology, data** ..... 75
*4.2.1 Viewshed* ..... 76
*4.2.2 Least-cost path* ..... 78
**4.3 The results** ..... 80
*4.3.1 Intervisibility of military sites* ..... 80
*4.3.2 Forts-settlements spatial relation* ..... 82
*4.3.3 Road system* ..... 83
**4.4 Discussion** ..... 86

**5 Conclusion** ..... 92

**Bibliography** ..... 95

**Primary sources** ..... 95

**Secondary literature** ..... 96

**Tables**

**Figures**

**Maps**

## Introduction

Out of the many aspects of Late Hellenistic and Early Roman archaeology of Israel numerous fortification structures (such as big forts, fortlets and single towers) didn't draw much attention to general discourse being overshadowed mainly by research focused on magnificent palace-fortresses, cities and temples of Hasmoneans and Herod the Great. This attitude is more or less understandable since in most cases we lack historical data concerning time and purpose of their foundation and we rely solely on archaeological data either from surveys or actual stratigraphic excavations which are unfortunately not so abundant. The main focus of this thesis will be aimed at the very fortification structures themselves – how can we identify them? What was their layout? What were their components? What building techniques were used? And finally, which will be stressed profoundly, what was their spatial distribution and relation to each other, and to their environment?

Geographical scope of this study will be delineated by the region of northern Negev, extending from the southern Hebron hills in the north to the southern slopes of Beersheva - Arad valleys in the south (Map 1). The reason for choosing this particular region is twofold: firstly, this was the border region between Judean kingdom and Nabateans, between the settled agricultural communities in the north and (semi-)nomad population of herders and merchants in the south. There is no definite border line between the two and remains of fortifications and of fortified settlements are only remains which can help us infer the influence of central government in these areas and what security measures were taken to assure safety of population and travelers passing these lands on the important route connecting Transjordan and Red Sea spice trade with Mediterranean (ROCCA 2008, 236-8). Secondly, the region of ancient (or, if you want, Biblical) Negev was subject to extensive surveys by the Institute of Archaeology of Tel Aviv University with many sites being excavated and fully published and by the Israeli Antiquities Authority in course of its Archaeological Survey of Israel project, which seeks to cover whole area of the State of Israel and identify every archaeological site within its limits. The results of these surveys and excavations (complete or partial) will constitute basis for present study.

The temporal scope is given as "Early Roman period" beginning of which is conventionally accepted as year 63 BCE with Pompey's campaign in the East and subsequent political subjugation of Judaea by Romans. However, I tend not to include years of civil war up

till beginning of the reign of Herod the Great (40/37 BCE) for present research since the first half of the 1st century BCE in Judaea did not see noticeable building activity. Also, we may assume that Herod and his descendants together with Roman governors utilized complex strategies for enforcement of security (both internal and external) in connection to various security and military threats; therefore there is higher probability that we can assume existence of certain patterns in distribution of fortified sites. The end of Early Roman period is conventionally fixed to Bar-Kochba revolt during years 132-6 CE, where this thesis shall end.

Before starting with historical overview, let us briefly look at the environment of the Negev then I will review history of research (both archaeological and historical) in this region and finally there will be presented several remarks on methodology.

## Geography and environmental conditions in the Negev

As was previously stated the Biblical Negev lies roughly in the valley of Nahal Beersheva. On the north, the valley is delineated by the southernmost spurs of the Central Judaean Highlands. Highland reaches the highest point in the vicinity of Hebron (Mt. Nabi Yunis, 1,030 m), mountains form here kind of a plateau whose southernmost peaks are Beni Na'im (951 m) in southwest, Khirbet Qaryatain (912 m) in the southeast and Dura (838 m) between them. From these points then the mountain ridge descends towards the Nahal Beersheva in three spurs – from Beni Na'im to Beersheva (280 m), from Dura to Tel Malhata (369 m, also known as Harei Ira in its southern part) the third spur circumvents Tel Arad from the east and joins Negev highlands at Ras ez-Zuweira – modern Rosh Zohar (587 m), which lies on the watershed in the place where begins descent to the Aravah valley in the east (ABEL 1967, 64, 78-9). The "spurs" are around 10-15 kilometers wide in the north where they begin but they are tapering towards the south. Mountains are sloping very gently, giving impression of low-hilly country when they meet borders of valley and so one cannot easily distinguish the two.

Geological makeup of the valley is predominantly made of white to reddish limestone, as in most parts of Judean highland. The bed of the valley is filled up with accumulation of aeolian yellow-brown to reddish loess, mainly silt and clay deposited there by water and wind erosion (ABEL 1967, 29, 32; HALL ET ALII 2005, 218, 492-4; HERZOG 1984, 91). It is generally accepted that this formation is particularly fertile (AHARONI 1979, 26).

The valley of Nahal Beersheva itself, which is tectonic depression (HALL ET ALII 2005, 236; HERZOG 1984, 90), is more or less flat, intersected with wadis of various sizes and with occasional hills or ancient tells, marking human settlement activity, scattered across its area. It slopes from around 570 m in the area of modern town Arad to ca. 280 m in the area of modern Beersheva.

Aharoni (1979, 26) defined Negev as ca. 30 miles (48 km) wide region between 300- and 100-mm isohyet, in fact, area around Beersheva usually receives around 200 mm of rain per year whereas region of Arad only around 150 mm per year. However, it is still enough to support dry farming and seasonal grazing. Other additional sources of water were principally seasonal wadis, supplied by water in rain season (mainly through November to February). Of these we can name several important – Nahal Beersheva, that makes East-West axis of Negev, from north flow Wadi Hora (from the Tel Ziph area) and Wadi Khalil (Nahal Hevron, south west from Hebron). South of modern Arad near Ras ez-Zuweira flows Nahal Malhata, which joins Nahal Beersheva at the foot of the tel of the same name. In the southern part of valley important wadi goes northward from the vicinity of Aroer (Nahal Aroer). Finally, water was also supplied by wells. Several concentrations of these are around Beersheva (literally "Seven wells"), Tel Malhata and Aroer (ABEL 1967, 78-9, 152).

## History of research

The first scholar who extensively surveyed this region and also who made first remarks on the nature and chronology of Roman age fortresses was German theologian Albrecht Alt (1930; 1931), in 1930s who dated this system between the end of First Jewish Revolt (66-73 CE) and Roman annexation of Nabatean Arabia in 106 CE. However, later Avi-Yonah (1966, 119-121) opted for the period of Emperor Diocletian, the beginning of the 3rd century CE. In the late 1960s both Applebaum and Gichon (1967) proposed existence of Roman limes system from the time of Vespasian (akin to Alt). Gichon (1967) in one of his articles even pushed the very beginning of defensive network further back and ascribed it to king Herod the Great. And since then he advocates this opinion (GICHON 1975; 2002). The Vespasianic date for the construction remained and it became prevalent view, Luttwak, for example, included Gichon's conclusions in his "Grand Strategy of Rome" (LUTTWAK 1976, 54-76). Gichon's theory was repeatedly dismissed by Shatzman (1983; 1991) who based his work on new archaeological discoveries of

1970s a 80s as well as on careful examination of available historical evidence. Taking all this into account he again opted for the Diocletianic date, which is now widely accepted. Shatzman's study on the armies of Hasmonaeans and Herod (1991) was so far the first and also the last attempt to sum up our knowledge about late Hellenistic and Early Roman fortifications in Israel and since it is now more than 20 years since its publication now, it necessarily follows that it must be updated, although many of its conclusions are still valid.

As we can see the focus of scholarly research was aimed at the Late Roman fortification system in Negev, mainly because of available historical evidence (Notitia Dignitatum) and excavations at such places as Tel Malhata (BEIT-ARIEH 1993; 1998), Mezad Tamar, En Boqeq (FISCHER ET AL. 2000) and others. Early Roman fortresses were neglected since most of the excavations were still under way in the 1970s and 80s. And others focused on other types of fortifications, such as Herod's palace-forts or city defenses. It was only in the late 1990s and early 2000s when these projects were fully published; these are principally Tel Aroer (THAREANI ET AL. 2011), Horvat Uza (BEIT-ARIEH ET AL. 2007) and Tel Ira (BEIT-ARIEH ET AL. 1999). Scholarly interest was also fueled by excavations in other regions of Israel. In first half of 1990s Yuval Barouch surveyed and excavated several sites in southern Hebron hills (BAROUCH 1994; 1996), Yizhar Hirschfeld contributed with his project at Ramat Ha-Nadiv in Sharon plain (HIRSCHFELD ET AL. 2000) important data yielded excavations at Sha'ar Ha-Amaqim, apparently the site of Herodian military colony Gaba, by Artur Segal (SEGAL ET AL. 2009) and then Moshe Fischer excavated Horvat Mezad on ancient road linking Emmaus-Nicopolis to Jerusalem in course of joint project of Benjamin Isaac's and Israel Roll's oriented towards Roman road system in Judea (FISCHER ET AL. 2012; ISAAC ET AL. 1996).

These new researches gave way to new viewpoints on the issue of Early Roman fortifications and several interpretations were put forward. Hirschfeld, for example, denied military nature of these structures altogether, interpreting them as fortified manor houses of nobility or rich landowners (HIRSCHFELD ET AL. 2000, 693-6; 714-8). Several other scholars observed connection of these structures to road system of Judaea and therefore concluded they were fortified road-stations similar in function to later Roman *mansiones*/*mutationes* or medieval *khans* with additional functions as patrolling and road maintenance bases (FISCHER ET AL. 2012, 279, 289; ISAAC ET AL. 1996, 328). For the sake of this account being complete, let me remind that Gichon in late 1960s viewed this system as a part of military settlement of Idumeans

introduced by Herod, which has not been discussed since due to shortage of historical and archaeological data (GICHON 1967, 27-43).

## Goals and methodology

I would summarize basic goals of this thesis as follows:

1. Description of fortresses from archaeological point of view – their architecture, defensive features and material culture.
2. Analysis of their spatial setting – relation between fortresses themselves, to the road system and civilian settlements with special attention to the ancient military signaling and tasks such as patrolling and enemy interception.

   This will ultimately lead to:
3. Evaluation of their function and defensive abilities in ancient warfare.
4. Conclusions about chronology and potential development of the fortification system from the time of Herod the Great to the Bar Kochba revolt.

We must set several basic methodology rules in order to evaluate available evidence correctly to which, however, are also pertains some limitations.

a) Ad 1) first of all, it is important to define what a fortress is; which structure can be identified as such and which cannot. The definition, that seems fittest to me, will be presented in chapter 2. All spectrum of archaeological data will be drawn mainly from published sites, some of them were published in full (Aroer, Ira, Horvat Uza). Nevertheless, most of the sites are known only from partial or preliminary reports (Arad, Beersheva etc.). Thus assignment of structures from these sites to Early Roman period and their identification with fortresses will be mainly based on thorough analysis of material published, which is mainly architecture, and general stratigraphy of the site. Well established parallels from other parts of Israel will be important for this part. Analysis of different architectural phases and material culture will also provide clues about chronology and development of single structures as well as the system as a whole.
b) Ad 2) as was said above, GIS applications will be utilized for this kind of spatial analysis. First part will be dealing with signalization and the thesis will aim to answer question "Was there any line of communication between fortresses?" and "Could have been

signaling used for communication between fortresses and civilian communities?" This, of course, raises the question of visibility and effective range of various types of signals, which will be discussed later. When it comes to patrolling, interception and road system in general an attempt to its reconstruction will be made using "cost-surface analysis" analyzing possible routes and connections between the sites. All technical detail concerning GIS will be dealt with in appropriate chapter.

c) When is one dealing with spatial analysis covering settlements, too, it is obvious one needs to localize these settlements. The situation here gets more complicated here, since only a few sites were excavated. As this thesis is not primarily oriented on civilian settlement we will deal with the topic rather shortly. Sources for identifying settlements list as follows:
    - Literary and epigraphy sources, works of Josephus are especially valuable in this point.
    - Excavation reports.
    - Regional surveys – chiefly Emergency survey of Judaea and Samaria from years 1968/9 and several surveys conducted on behalf of IAA in the course of Archaeological Survey of Israel (no. 132 Nahal Beqa, 139 Nahal Yattir, no. 144 Tel Malhata and no. 146 Horvat Uza).
d) We must keep in mind that our archaeological evidence is inevitably incomplete; therefore one must be careful in drawing conclusions. On the other hand, GIS modelling, for example, allows us to predict, to certain extent, missing links in communication line (if we can assume existence of it). Further discussion will be provided again in the appropriate chapter.
e) Ad 3) and 4) knowledge of historical context will be crucial for the understanding of the fortifications. We must ask three questions: "What were the internal and external security threats to Herod, his successors and Roman *provincia*?", "Did these threats changed overtime?" and "What were the measures taken?" Answer to the last question is most problematic because details concerning political and military organizations of territory are on most occasions omitted by ancient authors. Furthermore, by arguing that existence of these fortresses is a reaction to security concerns we may enter spiral of circular reasoning. I am inclined to opinion that facts should speak for themselves; actually this is one of the principal goals of this thesis – to explore spatial relations of the fortifications

using objective methods of GIS software. One can interpret the phenomenon only after these analyses are done; and, of course, if one knows exact historical background. Later parallels from High Imperial Rome, from which period we have most evidence, can shed some light on certain problems of traffic control, patrolling and monitoring of civilian population but one should use them very carefully, since we are dealing with earlier period.

### Structure of the thesis and general remarks

The first chapter of this thesis will be dedicated to the historical background of the Early Roman period in Israel, as stated above, with the emphasis on the military matters – conflicts, security threats (both internal and external) and armies available to the client kings and Roman governors. Some remarks will be also done with regards to the Nabataeans. The second chapter is going to be wholly archaeological – it will describe principal sites pertaining to fortifications in the area of interest. An attempt will be made to identify other possible fortifications which are known from field surveys, the complex problem of field surveys, identification of sites and dating of features will be discussed also. The aim of this part of the thesis is to give general overview on what we know about fortifications in the Early Roman period in Israel so far, thus this chapter will be supplied with examples of fortifications in other parts of country. Then, in third chapter, I will focus on civilian settlements in the Negev from the end of Hellenistic period to the Bar Kochba revolt; the evidence for them will be based mainly on archaeological surveys.

The spatial analysis of fortifications and settlements will come next in the fourth chapter. GIS (geographical information systems) applications will be utilized for working with a terrain model and execution of spatial analyses in this environment. Further details on methodology, advantages and restrictions of this method will be included, too. Then, in the conclusion I will sum up results of the spatial analyses together with other archaeological and historical data and I will seek to interpret them in their correct context.

Names of all locations will be presented in simplified English transcription from Hebrew and Arabic, Hebrew names will be preferred to Arabic ones (but they will be included also, where it seems appropriate, or where there is no Hebrew equivalent). Names of historical personages and ancient sites known from ancient sources will be given in Latinized form commonly used in English translations, original Greek, Aramaic, Hebrew or Arabic names will

be included where it will be necessary for my inquiry, or where these names are also commonly used in English studies. I prefer using abbreviations BCE (Before Common Era) and CE (Common Era) over more traditional BC/AD.

# 1 Historical background

## 1.1 Hasmonaeans and Herod

First confrontation between Jews and Romans came in times of civil strife between brothers Hyrcanus and Aristobulus in 64 BCE. Antipater, father of Herod, persuaded Hyrcanus to take action against his brother; he then gathered army in Transjordan with help from Nabataean king Aretas III and led his forces to Jerusalem. The conflict was prevented by arrival of Pompey's legate Scaurus to Judaea. But Scaurus did not interfere and so Aristobulus defeated Nabataean army in field.[1]

Shortly afterwards Pompey himself came to Damascus, there he received envoys of both brothers and priests. Afterwards Pompey went out with an army to lay siege to Jerusalem, because of Aristobulus' actions. Jerusalem fell in autumn 63 BCE and Judaea was reorganized.[2] Hellenistic and non-Jewish cities in coastal plain and Transjordan, were transferred to the province of Syria. Hyrcanus ruled rest of the Judaea as a High Priest.[3]

Antipater appears again helping Scaurus during his expedition to Arabia against Aretas III.[4] After several years, Aristobulus' son Alexander rebelled against Hyrcanus with large portions of Judaean population, especially in Galilee and Samaria, occupying Hasmonaean fortresses Alexandrium and Machaerous. The rebellion was suppressed by Syrian governor Gabinius, who again reorganized Judaea, now into five *synodoi* led by aristocratic councils.[5]

Another turbulent period begins with Roman civil wars. Antipater and Hyrcanus helped Caesar on his campaign to Egypt in 47 BCE. Hyrcanus was made *ethnarchos* of Judaea and walls of Jerusalem were re-erected.[6] Antipater, on the other hand, was awarded with Roman citizenship and made *epitropos* of Judaea by Caesar. Antipater, in turn, appointed his sons Herod and Phasael governors of Galilee and Jerusalem respectively. Herod's activities and struggle against bandits led to rupture with Hyrcanus. Sextus Iulius Caesar, governor of Syria, stepped in and helped Herod. Herod's successes and client bonds to Iulii family probably played their role

[1] BJ 1.123-130; AJ 14.8-33.
[2] BJ 1.131-149; AJ 14.34-68.
[3] BJ 1.153-8; AJ 14.72-79.
[4] BJ 1,159; AJ 14, 80-1.
[5] BJ 1.160-78; AJ 14.82-103.
[6] BJ 1.187-94, 199-200; AJ 14.127-55.

(RICHARDSON 1996, 111). Herod was appointed *strategos* of Samaria and Coele-Syria by Sextus, afterwards.[7]

In course of civil wars it was important for Herod's family to stay in favor of both sides of the Roman conflict. They withstood murdering of Sextus Iulius Caesar, the installation of Cassius, as well as another change after the battle of Phillipi in 42 BCE when Marc Antony begun governing the east of the Empire. Afterwards, both Herod and Phasael were made *tetrarchs* by Antony, further extending their influence and power. During those years they had to cope also with internal enemies, among them mainly with Malichus, probably Idumaean noble (MARSHAK 2012, 119), who assassinated their father Antipater.[8] Helix (or Felix in BJ), brother of Malichus then took up arms against sons of Antipater, occupying several desert fortresses, Masada among them. At the same time Marion of Tyre usurped parts of Galilee with three fortresses. Both of them were defeated by Herod. Shortly after there was another rebellion led by Aristobulus' youngest son Antigonus, supported by Marion and Ptolemy of Chalcis, but it too was suppressed by Herod.[9]

A crucial turn came in 40 BCE; Parthians invaded Syria and installed Antigonus as the Jewish king. Herod left 900 of his men with his family on Masada and fled to Rome seeking help. His brother Phasael, however, was killed. In Rome, Herod managed to win over both Antony and Octavian and was made king of Judaea by the Senate.

In years 39-37 BCE he, together with Romans, fought Antigonus and, on one occasion, aided Antony with military operations against Parthian allies in Samosata-on-the-Euphrates.[10] In the first year of the war Herod conquered Galilee and Idumaea, breaking siege of Masada. Most of the following year Herod spent with putting down rebellions in Galilee and dealing with corrupt Roman generals. The final siege of Jerusalem started in 37 BCE, Herod built three lines of circumvallation with towers around the city, then his forces were joined with Sosius' army of 11 legions and 6 000 horsemen. Jerusalem was conquered on June 37 BCE, Antigonus was slain and Herod could begin his rule as a client king of Judaea.[11] There is indication of continued presence of Roman army in Jerusalem after fall of Antigonus.[12]

[7] BJ 1.199-200, 203-14; AJ 14.127-55; 158-80. The Latin equivalent would be probably *praefectus* and Coele-Syria might refer to Decapolis. See HORBURY, DAVIES, STURDY (eds.) 1999, 103.
[8] BJ 1.216-244; AJ 14.268-300; 324-6.
[9] BJ 1.236-40; AJ 14.294-300.
[10] BJ 1.274-338; AJ 14.370-392; 403.
[11] BJ 1.343-57; AJ 14.465-91.
[12] AJ 15.72.

Herod had to cope with external threats, represented by Cleopatra's expansive tendencies, since Antony gave her parts of Judaea – Jericho oasis and coastal region; and unspecified Nabataean land. Josephus states it was due Cleopatra that Herod started building up Masada.[13] During Actium campaign, he fought Nabataeans. Reasons for this war are unclear; according to Josephus it was Cleopatra's ambitions[14] on one hand and Herod's dissatisfaction with Nabataean debt payments on the other hand. Military operations took place mainly in Transjordan and southern Syria. Herod won battle near Diospolis but lost to Nabataeans at Canatha, who were backed by Cleopatra's general Athenion. Arabs then pillaged Judaea which brought great calamity on the land, together with earthquake of 32 BCE. However Herod regrouped his forces and defeated Nabataeans at Philadelphia.[15]

After Actium he set off to meet Octavian (30 BCE), having taken off royal clothes and diadem, wearing toga of Roman citizen. Octavian re-inaugurated him to his office again, gave him back all land formerly possessed by Cleopatra and also other cities (Samaria, Gadara, Hippos, Gaza, Anthedon, Joppa and Straton's tower), so a new era of Herod's reign began.[16]

In 27 BCE Samaria was renamed Sebaste, honoring Augustus, and the building of Augustus' temple in the same place began[17] (RICHARDSON 1996, 223). The fifth anniversary of Augustus' victory at Actium was celebrated with athletic and gladiatorial games held in Jerusalem, where hippodrome and theater, with trophies and inscriptions honoring Augustus, was build. These games and trophies, however, were denounced by conservative part of population, due to abolition of idolatry.[18]

Around 23 BCE Augustus awarded Herod with new territories – Batanaea, Gaulanitis and Trachonitis from the hands of their former ruler Zenodorus, who had apparently profited from banditry in the area. Soon after, when Zenodorus died, the rest of his domain – Ulatha and Paneas at the source of river Jordan, was given to Herod, too. This happened during Augustus' visit to

[13] BJ 7.300-3.
[14] RICHARDSON (1996, 167) supposes that her primary goal was to gain Herod's realm, since she supported Nabataeans during the war. KASHER (1990, 136-9) rightly points to strained relations between Cleopatra and Herod and rift between Antony and Octavian leading to military operations of Actium war. In this scenario, Herod willingly went to war in order to stay out of direct confrontation with Octavian.
[15] BJ 1.365-85; AJ 15.106-60.
[16] BJ 1.386-97; AJ 15.161-201.
[17] AJ 15.292; 296-316.
[18] BJ 1.415; AJ 15.267-9.

the East (ca. 23/20 BCE)[19] when he made Herod *procurator* of Syria.[20] The construction of the temple of Augustus followed afterwards. The whole decade (30-20 BCE) is characteristic with huge building activity across the land – military colonies in Gabae and Esebonitis in Perea were created approximately around this time, palace in Jerusalem (25 BCE), Herodium (24 BCE), Caesarea (24/23 BCE) followed; as well as temple in Paneium (23/20 BCE) and rebuilding of the Temple in Jerusalem (23/22 or 20/19 BCE).[21]

Around 18/17 BCE Herod visited Augustus in Rome, where his sons had completed their education.[22] Years 16/15 BCE mark peak of his good relations with Rome. He was accompanying Agrippa from Lesbos to Judaea, where he entertained Agrippa. Here Agrippa saw some of Herod's constructions and made sacrifice at the Temple in Jerusalem. Next year, he was accompanying Agrippa on his campaign to Crimean Chersonessus and journey across Asia Minor.[23]

After another visit paid to Augustus in 12 BCE in Aquileia and Rome, where Herod arranged games honoring Augustus, Herod, upon finishing of Caesarea and temple of Augustus, established quinquennial games.[24]

Another crisis ensued soon after; banditry in Trachonitis caused Herod to act with iron fist with support of Saturninus, governor of Syria. Bandits found refuge in Nabataean realm which caused a limited war between Herod's and Nabataean forces. Herod's army stormed certain fortress called Rhaepta killing many bandits and Nabataeans. Afterwards, Herod founded military colony in the area, sending 3 000 Idumaeans to Trachonitis and inviting Zamaris, a Babylonian Jew, and his entourage of 500 horse archers, either at the same time (12 BCE) or at later stage (9 BCE). They settled in place called Bathyra in Batanaea.[25] Their purpose was not only to repel bandits but also to guard important pilgrimage route from Babylon to Jerusalem. Augustus

[19] BJ 1.398-400; AJ 15.342-64. Augustus' visit is dated by year 17 of Herod's reign, thus marking year 23 BCE. Dedication of Batanaea, Trachonitis and Auranitis should then be earlier (cca 24/23 BCE). In the BJ is, however, given year 10 (since Actium), which is 21/20 BCE.
[20] He was probably responsible for collecting taxes. See HORBURY, DAVIES, STURDY (eds.) 1999, 120.
[21] For chronology see: KOKKINOS 1998, 370; NETZER, 1981, 1; NETZER, 2006, 302-5; RICHARDSON 1996, 238; ROLLER 1998, 87-90.
[22] BJ 1.446; AJ 16.6-11.
[23] BJ 1.422-8; AJ 16.12-65.
[24] BJ 1.451-466; AJ 15.341; 16.87-129; 132-142. The whole visit perhaps took place between 13-12 BCE. Augustus had been returning from Germania approximately at the end of summer 13 BCE and Herod could have celebrated Augustus autumn birthday with the games. In fact, he could have stayed until March 12 BCE, when Augustus had become *pontifex maximus*, following death of Lepidus, and also, he might participate at the funeral of Agrippa later that month. See KOKKINOS 1998, 371-2.
[25] AJ 16.271-285; 17.23-6.

learned about the conflict from Syllaeus, courtier of Nabataean king Obodas III, and repudiated Herod, which caused him falling into apathy. The former status was restored only after intervention of Herod's minister Nicolaus with help of envoys of new Nabataean king Aretas IV.[26]

Herod died on March/April 4 BCE. He was buried in his palace in Herodium. In his last will he bequeathed large sum of money, as well as some gold vessels, to Augustus and his wife Livia and divided kingdom between his sons Archelaus, Antipas and Philip.[27]

### 1.2 Sons of Herod

Immediately after Herod's death some of his last commands were lifted so to calm down the situation among people.[28] Revolt in Jerusalem nevertheless erupted soon.[29] Archelaus felt restrained since he was not yet approved by Augustus and refused to take any measure. Situation culminated during Passover, with thousands of dead.[30] Archelaus and other of Herod's family set up sail for Rome. After departure of Archelaus and Syrian governor Varus, Sabinus, Augustus' *procurator*[31] moved to Judaea and effectively took control of palace in Jerusalem and other garrison forts.[32]

During negotiations in Rome Judaea was on the brink of war. Varus left one legion in Jerusalem in order to keep it secure. Sabinus, however was employing violence in order to seize king's forts and to search for royal money.[33] Disturbances grew and finally, during festival of Pentecost the rebellion known as Varus' War begun (HORBURY, DAVIES AND STURDY 1999, 44-5). People in Jerusalem took arms and besieged Roman garrison of the city. There was fight on the Temple mount and part of the porticos encompassing the Temple were burned and Temple treasure stolen. Rebels managed to besiege Sabinus in Herod's palace. Former royal troops

[26] AJ 16.286-299; 335-355.
[27] BJ 1.665-673; AJ 17.188-200. Place of death is not specified, if we took into consideration preceding events, it could have happened in Jericho. However the length of funeral procession – 70 stades (in AJ not BJ) points to Jerusalem. What further hinders dating is Josephus' reference to lunar eclipse. It could have been either eclipse of September 15, 5 BCE or March 13, 4 BCE. Thus possible span of the precise date of his death covers several month. See e.g. KOKKINOS 1998, 372-3.
[28] AJ 17.193.
[29] BJ 2.4-7; AJ 17.206-8.
[30] BJ 2.8-13; 17.210-218.
[31] AJ 17.221.
[32] BJ 2.14-19; AJ 17.219-223.
[33] BJ 2.39-41; AJ 17.250-3.

deserted to them; on the other hand we are informed about other royal troops under command of Gratus and Rufus who went to help the Romans in the palace.[34]

Another uprising broke out in Idumaea, where 2 000 Herod's veterans revolted. Achiabus, Herod's cousin, fought with them. In Galilee, in the city of Sepphoris, Judas, descendant of "robber" Ezekias who was executed by Herod early in his career and other men burnt down the palace and took money and arms stored there. Simon, Herod's former slave, destroyed palace at Jericho and Amathous and several other places. Now we again meet Gratus with force of soldiers loyal to Romans who overthrew Simon. There was another man called Athronges who took royal diadem upon his head and lived on banditry. He was active in area around Emmaus, where he attacked Roman supply convoy. Romans were again saved by Gratus, commanding soldiers from Sebaste.[35]

As soon as Varus learned about revolts in Judaea, he called two legions and auxiliaries; of these Josephus names two – those from Berytus and forces of Aretas IV. Forces were joined in Ptolemaïs; then they proceeded to Sepphoris, which was razed. Army continued its march towards Sebaste and from there to Jerusalem. Arabians allegedly burned down settlements of Arus and Sappho, whereas Varus ordered burning of Emmaus. In Jerusalem, Varus delivered Romans from the siege without any bloodshed, and Gratus, Rufus and Joseph joined his forces. From Jerusalem he continued to the Judaean countryside, where 2 000 rebels were crucified. Another 10 000 were pardoned, apart from few members of Herodian family who were executed. Before his departure he left one legion in Jerusalem.[36]

It was only after the end of the war and lengthy proceedings in Rome when Augustus made decision about Herod's will. Archelaus was made *ethnarch* in Judaea and Samaria; Antipas was given Galilee and Perea; Philip was allotted with Batanea, Trachonitis and Gaulanitis. Salome, Herod's sister, received cities of Ascalon, Iamnia, Azotus and Phasaelis. Cities of Hippos, Gaza and Gadara were added to Syrian province.[37]

Ever since then, we do not know almost anything about rule of Philip. His domain was mixed region with Syrians, Arabs and Jews who were living relatively in peace together. Development of various communities is attested e.g. at sanctuary of Baal Shamin in Sia' (KOKKINOS 1998, 239-240; KASHER 1988, 176). Only during Quirinus' census there were

[34] BJ 2.42-54; AJ 17.254-268.
[35] BJ 2.55-63; AJ 17.269-284.
[36] BJ 2.66-79; AJ 17.286-299.
[37] BJ 2.93-100; AJ 17.317-323.

disturbance on the northern fringes of tetrarchy in Ituraea (KASHER 1988, 176). Philip endorsed urbanization of his country as did his father Herod, and founded Caesarea at the Paneas sanctuary and Julias on the site of village of Bethsaida on the northern shore of Sea of Galilee.[38] He died after 37-year-long rule (c. 33/34 CE) in Julias, his tetrarchy was formally annexed to Syria, but Tiberius ordered taxes to be collected separately, having in mind probably different settlement for the region apart from its annexation to Syria[39] (PELTIEL 1991, 107-8; 139-140; SCHÄFER 2003, 102).

Rule of his brother Archelaus was less fortunate. On the one hand we learn about reconstruction of Jericho palaces and new aqueduct bringing water to king's estate along with foundation of Archelaïs in the Jordan valley. On the other hand his rule was marked by violence; apparently he could not govern the land in the same manner as his father did. After 10 years of rule he was banished by Augustus to exile in Vienne, France. His tetrarchy was then reduced to Roman province.[40]

The third brother, Antipas, had longer and more interesting career. Similarly as his brothers and his father before them, he promoted urbanization in Galilee and Perea. First of all, Sepphoris was probably refounded as Autokratoris (Imperatoris)[41], fortified and made a "metropolis of the country". Betharamphtha in Jordan valley was rebuilt as well (c. 13 CE), renamed as Julias, after Augustus' wife (HOEHNER 1972, 83, 86-91; HORBURY, DAVIES AND STURDY (eds.) 1999, 112-113; 130-1; SCHÄFER 2003, 103). At around 20 CE he founded Tiberias on the shore of Sea of Galilee, which became his capital after Sepphoris (HOEHNER 1972, 94-8; SCHÄFER 2003, 103).[42]

Antipas is known mainly from New Testament stories of John the Baptist[43] and crucifixion of Jesus.[44] Thus we may induce that he maintained palace in Jerusalem where he stayed for part of the year, or some details on the beginning of war between him and Nabateans. According to Josephus war broke out as a revenge of Aretas IV for insult of his daughter, married to Antipas.[45] He divorced her and married his niece Herodias.[46] War then broke out and armies of

[38] BJ 2.168; AJ 18.28.
[39] BJ 2.181; AJ 18.106-108.
[40] BJ 2.111-3; AJ 17.339-344.
[41] Probably in year 6 CE, honoring proclamation of Augustus as Imperator (KOKKINOS 1998, 234).
[42] BJ 2.168; AJ 18.27.
[43] Mark 6.14-29; Luke 3.19-20; 9.7-9
[44] Luke 23.7-12
[45] And thus breaking old alliance possibly arranged by Herod and Augustus (KOKKINOS 1998, 230-2; KASHER 1988, 177).

both kings fought in the Golan, in the vicinity of Gamla. Army of Antipas lost due to former Philip's soldiers who deserted to Nabataean side. Tiberius, upon hearing about the battle, instructed Vitellius, then governor of Syria to wage war on Aretas.[47] Vitellius marched with two legions and auxiliaries. The army marched south, through Judaea, at Jerusalem Vitellius made a stop. It was at that time Vitellius learned about death of Tiberius; the expedition was therefore cancelled.[48] War falls to years 36/7 CE, but Antipas' divorce of Nabataean princess occurred no later than year 28 CE (HOEHNER 1972, 254-6; KASHER 1988, 177-8; SCHÄFER 2003, 104).[49] Since fighting took place in the region of former tetrarchy of Philip and some of his former troops deserted to Nabataeans, we may conclude that real reason for the war was attempt to seize part of this territory, which was in impermanence since Philip's death only few years before (KASHER 1988, 180).

Antipas also participated on Roman foreign policy towards Parthians. Tiberius sought modus vivendi with Artabanus, king of Parthia. Vitellius met him on Euphrates together with Antipas, who entertained them. After the meeting Antipas informed Tiberius about agreement made on Euphrates, which angered Vitellius, who wanted to report to Emperor himself.[50]

Antipas' fortunes turned away from him at the beginning of the rule of Caligula. Agrippa, his nephew, and friend of Caligula accused him of sedition and alliance with Seianus and Artabanus as did also Vitellius. Thus, he was banished to Lyon, France in 39 CE and his tetrarchy was given to Agrippa.[51]

### 1.3 Praefects of Judaea 6-41 CE

After banishment of Archelaus, Judaea was made province, headed by *praefectus* chosen directly by Emperor from equestrian order, while Syrian governor (*legatus Augusti pro praetore*, of senatorial rank) held also some authority over *praefectus*. *Praefectus*, based in Caesarea, held ultimate judicial authority, and also *ius gladii* – power to inflict capital punishment. He was responsible for collection of taxes and commanded auxiliary forces stationed in province, since there was no legion in praefectorial provinces apart from Egypt (HORBURY, DAVIES AND STURDY 1999, 134-6; MILLAR 1993, 45-6; SCHÄFER 2003, 105). Part of governor's suite was also officials

[46] AJ 18.109-112.
[47] AJ 18.113-115.
[48] AJ 18.120-7.
[49] KOKKINOS (1998, 232) on the other hand argues for divorce at around 33/4 CE, much closer to war.
[50] AJ 18.101-105.
[51] BJ 2.178; 181-3; AJ 18.240-256.

with various tasks in administration of province, usually drawn from army ranks. These are *frumentarii*, *beneficiarii* and others occupied with logistic of army, collection of taxes and other operations needed to run administration of province. Besides Roman governor, some powers were exercised by local authorities – Sannhedrin headed by High Priest (BLOOM 2010, 48-9; HORBURY, DAVIES AND STURDY 1999, 135). High Priests were, however, appointed by governor up to 44 CE, when this right was transferred upon Herodian client kings (HORBURY, DAVIES AND STURDY 1999, 141-2; SCHÄFER 2003, 105-7). This means that even they were subjugated to the control and policies of Roman officials (GOODMAN 1987, 42-5).

After banishment of Archelaus, Augustus sent Quirinus to conduct census and Coponius to be new governor of province (HORBURY, DAVIES AND STURDY 1999, 133-4; SCHÄFER 2003, 106). Census was opposed at large by countrymen on religious grounds and Joazar, then High Priest, were required to assist.[52] Of the first four praefects – Coponius (6-9 CE), Marcus Ambivulus (9-12), Annius Rufus (12-15) and Gratus (15-26), we do not know almost anything besides incident caused by Samaritans in the Temple on Passover during Coponius' reign. It seems that first quarter of 1st century CE was rather peaceful in new province.[53]

Only under Pilate (26-36) we heard about disturbances, caused by Pilate's insensitivity to Jewish customs. First, he brought images of Emperor to Jerusalem, which was never done before. On another occasion he unlawfully took Temple money in order to build aqueduct to Jerusalem.[54] It was probably during Pilate's rule that messianic movement started to rise again. Jesus preached and was executed during this time and Pilate cracked down on Samaritans on Mount Gerizim, which caused his removal from office. Vitellius was then present at Jerusalem due to expedition to Nabataea in year 36 CE. He made some concessions to Jews on this occasion, such as handing custody of High Priest's vestment to priests. Afterwards, he installed Marcellus as temporary governor of province.[55] Caligula, after his ascension, named Marullus (37-41) last praefect of Judaea.[56]

### 1.4 Agrippa I (37-44 CE) and Agrippa II (ca. 50-92/3 CE)

Agrippa, grandson of Herod through his son Aristobulus from Mariamme the Hasmonaean, named after close friend of Augustus and Herod, appears on scene shortly before

[52] BJ 2.117-8; AJ 18.1-4; 26.
[53] AJ 18.29-35.
[54] BJ 2.169-177; AJ 18.55-62.
[55] AJ 18.85-95.
[56] AJ 18.237.

death of Tiberius. He was brought up in Rome and was acquainted with some figures of imperial family. Namely, he was friend of Tiberius' son Drusus.[57] After his death, Agrippa left for Judaea and spent some time on court of his uncle Antipas, but soon left for service in suite of Syrian governor L. Pomponius Flaccus out of disappointment with his position at Antipas' court.[58] Due to corruption scandal and his lack of funds he moved back to Rome to seek help of Antonia Minor and friendship of Tiberius.[59] He befriended Caligula and because of his flattery – wishing early death upon Tiberius so Caligula can become Emperor soon – was arrested. Just few months after this incident Tiberius died and Agrippa was released and made king in former tetrarchy of Philip and Abila.[60] Soon after, banishment of Antipas occurred (see above) and his tetrarchy was given to Agrippa as well.

Short reign of Caligula is marked in Jewish history with attempt to include Jews in Emperor worship. Caligula ordered to erect golden statute of himself in the Temple in Jerusalem and sent Petronius, governor of Syria, with two legions to carry out this task. It is only thanks to Petronius hesitation and old friendship between Agrippa and Caligula what prevented to stop this unreasonable plan. This affaire occurred probably between winter 39/40 and 40/41 CE since the end of it is directly connected with Caligula's death (KOKKINOS 1998, 288-9; SCHWARTZ 1990, 77-88).[61]

Agrippa was apparently present at Rome during assassination of Caligula as he was involved in installation of Claudius (SCHWARTZ 1990, 91-3).[62] Due to his help and out of old friendship, Caligula awarded Agrippa with Judaea and Samaria and so re-created kingdom of Herod. He also received consular ornaments and other honors in Rome (KOKKINOS 1998, 289-290).[63] Agrippa's brother Herod was given tetrarchy of Chalcis in Mount Lebanon.[64]

As a king his conduct was similar to that of his grandfather Herod; he bestowed benefactions on his people as well as foreign cities[65] and he widely employed non-Jews in his service as is shown by his general Silas who was followed by another man called Helkias

[57] AJ 18.143.
[58] AJ 18.144-155.
[59] AJ 18.161-7.
[60] BJ 2.178.180; AJ 18.168-178; 195-204; 224; 234-237.
[61] BJ 2.184-7; 192-203; AJ 18.261-309.
[62] BJ 2.206-210; AJ 19.236-244.
[63] Dio 60.8.2.
[64] BJ 2.214-217; AJ 19.274-7.
[65] AJ 19.299-300; 328; 335-7.

(KASHER 1988, 188-190. KOKKINOS 1998, 292-3),[66] and some inscriptions from southern Syria.[67] Otherwise he continued in policies of his predecessors, e.g. in urbanization. Even though some scholars seem to find "Jewish tendencies" in some of his deeds, despite his deeply rooted Hellenist and Roman education (KASHER 1988, 189-191; SCHÄFER 2003, 113; SCHWARTZ 1990, 41-4; 116; 130). In Jerusalem he begun to build the so-called Third wall encompassing northern suburb of city called Bezetha. He was stopped, however, by Claudius himself who was informed by Marsus, governor of Syria.[68] Among his principal deed in international politics was convention of eastern client kings in Tiberias. Agrippa entertained Antiochus IV of Commagene, Sampsigeramus II of Emessa, Cotys IX of Lesser Armenia, Polemo II of Pontus and his brother Herod of Chalcis. Agrippa probably wanted to strengthen his position through dynastical marriage – he promised his daughter Drusilla (born c. 38 CE) to son of Antiochus of Commagene. Participants of this convention were nevertheless forced to leave prematurely as Marsus again intervened. He probably feared they could conspire against Rome (SCHWARTZ 1990, 138-9).[69]

Agrippa died under unclear circumstances during games held in Caesarea in 44 CE.[70] Since his son Agrippa II was still too young to rule (17 at that time), all lands formerly held by his father were again turned to province. Cuspius Fadus was chosen as new procurator, Claudius also ordered transfer of five cohorts from Judaea to Pontus and their replacement from Syrian garrison, which never happened.[71]

Agrippa II lived at that time in Rome[72] and it was only around year 49/50 (year 8 of Claudius) when he was given tetrarchy in Chalcis, formerly held by his uncle Herod who died in 49 CE.[73] Like Herod, his uncle, he also held authority over selection of High Priest and supervision of the Temple (SCHÄFER 2003, 113-4). Agrippa II enjoyed Chalcis only some four years, he was then removed by Claudius and given Batanaea, Trachonitis, Auranitis and Abila; Chalcis was in turn given to his cousin Aristobulus.[74] Probably in year 55/56 he was given

[66] AJ 19.299; 317-325; 353..
[67] OGIS 421, 422.
[68] BJ 5.147-9; AJ 19.326-7.
[69] AJ 19.338-342..
[70] BJ 2.219; AJ 19.343-352; Acts 12.21-23.
[71] BJ 2.220; AJ 19.360-6.
[72] AJ 19.360-1; 20.10.
[73] AJ 20.104.
[74] BJ 2.247-8; AJ 20.137-8.

Tiberias, Tarichaeae in Galilee and Julias in Peraea (KOKKINOS 1998, 322).[75] His domain remained same for long time till c. 75 CE when he was awarded with Arca in Lebanon by Vespasian (KOKKINOS 1998, 329).[76] He seemed to maintain strong position in Judaean politics. He had authority over High Priest as was stated above; he heard Paul's case at court in Caesarea Maritima,[77] maintained presence in Jerusalem and held custody over the Temple that was finished during that time.[78] He followed trends in urbanization with rebuilding and renaming of Caeasarea Philippi as Neronias in 61 CE; and benefactions in Berytus as his father did (KOKKINOS 1998, 323).[79] Despite this influence, his presence, together with his sister Berenike, and speech to people in Jerusalem at the outbreak of revolt in May 66 CE was not enough to alter the outcome.[80] He ruled till ca. 85/6 CE and died in 92/3 CE without heirs, after that, his kingdom was incorporated in the province of Syria (SCHÄFER 2003, 114).[81]

### 1.5 Procurators of Judaea (44-66 CE)

After death of Agrippa I, Judaea was again incorporated as a province on almost identical grounds as 38 years ago. Only praefects were now called procurators. Far more significant change was transfer of custody of the Temple and the right to appoint High Priest from the governor to members of Herodian dynasty. From 44 to 49 it was Herod of Chalcis, afterwards, till the sack of Temple in 72 CE this privilege was held by Agrippa II. This period is marked by two facts:

1. Virtually all procurators were incompetent in administering province with such delicate and complex religious and socio-economic conditions, probably due to their ignorance of Jewish culture (HORBURY, DAVIES AND STURDY 1999, 150).
2. Huge boom of messianic groups and deterioration of security situation mainly in the countryside; most of them probably belonging to the zealot movement (HORBURY, DAVIES AND STURDY 1999, 152-3).

It was during rule of Cuspius Fadus (44-6 CE) when messianic movements started to rise (HORBURY, DAVIES AND STURDY 1999, 142-3; SCHÄFER 2003, 114). Fadus violently suppressed

[75] BJ 2.252; AJ 20.158-9.
[76] BJ 3.57; 7.97.
[77] Acts 25.13-27.
[78] AJ 20.189-194; 219-223.
[79] AJ 20.211-214.
[80] BJ 2.312; 335-344.
[81] However, KOKKINOS (1998, 338-9), sees his death at around 100 CE.

group led by certain Theudas who called himself prophet.[82] We are also informed about band of bandits led by Tholomaeus committing crimes in Idumaea and among Arabians.[83] It is assumed that this Tholomaeus was either Idumaean or an Arab (AVI-YONAH 1966, 172; ISAAC 1998, 131-2; KASHER 1988, 192-4).

Fadus' successor Tiberius Alexander (46-8 CE)[84], son of Alexander the alabarch of Alexandria, was himself of Jewish origin albeit apostate. His rule in Judaea was calm and not strained by violence apart from execution of rebels the sons of Judas of Galilee. Alexander and Fadus are praised by Josephus as tolerant to Jewish customs and peaceful.[85]

Situation in Judaea started to deteriorate rapidly under governor Cumanus (48-52 CE). During his rule several grave events occurred – a Roman soldier provoking people at the Temple during Passover, who was later executed, caused great bloodshed therein.[86] Soon after, certain robbers robbed Emperor's freedman Stephanus on his way to Jerusalem. Cumanus ordered neighboring villages to be razed while one soldier burnt Torah scroll, which caused great tumult among populace.[87] Another mishandling of the situation at the hands of Cumanus occurred during conflict between Jews and Samaritans. Situation had to be resolved by Ummidius Quadratus, governor of Syria who had Cumanus dismissed to Rome.[88] Cumanus was banished to exile and one of his tribune Celer was executed (HORBURY, DAVIES AND STURDY 1999, 143-4; SCHÄFER 2003, 115).[89]

State of affairs deteriorated further under governor Felix (52-60 CE). Despite some early successes in dealing with zealots, including arrest of their leader Eleazar b. Dinas[90]; zealots regrouped and commenced to attack their opponents secretly with short daggers which gave them name *sicarii*.[91] Yet, situation again grew worse with bandits in the countryside and *sicarii* in the cities (HORBURY, DAVIES AND STURDY 1999, 144-5). Even messianic groups raged at large. One prophet from Egypt even threatened to take over Jerusalem, but his entourage was dispersed by Felix.[92] During this time quarrel between Jews and Gentiles in Caesarea erupted over municipal

[82] AJ 20.97-9.
[83] AJ 20.5.
[84] AJ 20.100-3.
[85] BJ 2.220.
[86] BJ 2.223-7; AJ 20.105-112.
[87] BJ 2.228-231; AJ 20.113-117.
[88] BJ 2.232-244; AJ 20.118-133.
[89] BJ 2.245-6; AJ 20.134-6.
[90] AJ 20.160-2.
[91] BJ 2.254-7; AJ 20.164-6.
[92] BJ 2.258-265; AJ 20.167-172.

rights and privileges. Felix intervened only when the situation started to be violent and attacked Jews of the city.[93] After the end of his tenure and installation of Festus (60-2 CE), he was accused before Nero but was acquitted and Gentiles were given eminence over Jews in Caesarea by Emperor, which caused more disorder in the city.[94]

Governorship of Festus, Albinus (62-4 CE) and Florus (64-6 CE), were all together marked by disorder, grew of the *sicarii* movement and tensions not only between Jews and Gentiles but also among various sectors of Jewish populace (HORBURY, DAVIES AND STURDY 1999, 146-7; SCHÄFER 2003, 116-7).[95]

### 1.6 Great Jewish revolt (66-73/4 CE)

Immediate cause for the eruption of revolt was situation in Caesarea where emotions were still stirred after ruling of Nero about prominence of Gentiles in the city.[96] Florus himself however triggered revolt in Jerusalem, when he took money from Temple treasure; following disorder was brutally crushed[97] and parts of Temple mount and city were destroyed.[98] Florus left in Jerusalem one cohort and left for Caesarea.[99] Envoy dispatched by Cestius Gallus, governor of Syria, and king Agrippa reached Jerusalem soon after, but they failed to suppress anger of people.[100] Masada was captured by group of zealots led by Menachem b. Judas, its Roman garrison annihilated; and sacrifices on behalf of Emperor were suspended, which was definitive breach with Rome and act of open rebellion (BLOOM 2010, 60-3, HORBURY, DAVIES AND STURDY 1999, 147-8; SCHÄFER 2003, 121).[101]

Adherents of peace party still held some hope in Agrippa II, who dispatched military units of Babylonian Jews from Trachonitis to quell the city. After few days of fierce fighting they were driven to Herod's palace and parts of city were destroyed by fire.[102] Roman garrison in Antonia was destroyed; Jewish soldiers from Herod's palace were given free leave after few days of siege

[93] BJ 2.266-270; AJ 20.173-8.
[94] AJ 20.179-181; 184.
[95] BJ 2.272-283; AJ 20.185-3; 197; 204-210; 215; 252-8.
[96] BJ 2.284-292.
[97] BJ 2.293-308.
[98] BJ 2.326-330.
[99] BJ 2.332.
[100] BJ 2.333-344.
[101] BJ 2.408-410; 433.
[102] BJ 2.418-429.

but Romans took refuge in three great towers of the palace (Hippicus, Phasael, Mariamme) and later were slaughtered.[103]

As a response to massacre of Jews in Caesarea, Jewish communities elsewhere targeted Gentiles – fighting occurred in Scythopolis; in Transjordan in Philadelphia, Gerasa, Pella, Gadara, end Esbus; in the north in Hippos, Golan region and Kedasa in Tyrian territory; Sebaste and Ascalon, Anthedon and Gaza in the south, moreover they approached Ptolemaïs, Gaba and Caesarea.[104] Local gentile populations defended themselves; in Scythopolis, Ascalon, Ptolemaïs and Tyros Jews were slaughtered; at Hippos, Gadara and Gerasa they were repulsed (BLOOM 2010, 67-9).[105] There was also a conflict in kingdom of Agrippa II, when his commander Noarus (or Varus) oppressed chief of Babylonian Jews Philip and tried to seize rule with help of Gentile citizens of Caesarea Paneas while Agrippa was meeting Cestius Gallus (KASHER 1988, 195-7).[106] Rebels took over fortresses Cyprus and Machaerus; Cyprus was destroyed and garrison killed; Romans from Machaerus were given leave.[107]

Gallus finally stepped in, took Leg XII with auxiliaries of kings Agrippa II, Soaemus and Antiochos. The army proceeded to Ptolemaïs, razing city Chabulon in Galilee on the way. Then part of the army was send to Ioppa and Sepphoris to secure these cities and to toparchy of Narbata.[108] After putting down weak resistance in Galilee, he moved to Antipatris, Lydda and continued towards Jerusalem, fighting various groups of rebels on his way.[109] Gallus approached Jerusalem from north, managed to capture Third wall and burned Bezetha. Army attacked walls of Jerusalem approximately at the location of Herod's palace and at the northern face of Temple mount. Josephus says Gallus almost captured the walls of the city but was discouraged by his officers in continuing the siege and army left Jerusalem.[110] On his retreat to coastal plain the rear of the army was constantly attacked by rebels and at the descent of Beth Horon greater part of Roman army was destroyed with almost 6 000 dead (BLOOM 2010, 70-6).[111]

Only after direct confrontation with Rome forces of rebels were given organization. To each district a *strategos* (or *strategoi*) was appointed (BLOOM 2010, 80-2; PRICE 1992, 51-2; 59-

[103] BJ 2.434-440; 450-6.
[104] BJ 2.457-460.
[105] BJ 2.461-5; 477-480.
[106] BJ 2.481-3; Vita 48-61.
[107] BJ 2.484-6.
[108] BJ 2.499-510.
[109] BJ 2.511-522.
[110] BJ 2.527-541.
[111] BJ 2.542-555.

62).[112] We are best informed about Josephus in Galilee, which was first region to be invaded by Vespasian following year. In preparation for defense Josephus had cities and villages fortified – Tiberias, Tarichaea, Jotapata, Bersaba, Selamis, Capharecchо, Japha, Siga and Gamala, Seleucia and Sogane in Gaulanitis. Moreover, several naturally strong points such as Mt. Tabor and rock formations were fortified as well (BLOOM 2010, 94-5; 113-114).[113] Josephus perhaps had some experience with Roman army, since he goes on stating, that he made divisions of his army similar to Roman manner.[114] At the same time certain John of Gischala opposed Josephus in Galilee and attempted to overthrow him.[115]

Military operations begun anew in spring 67 CE, when army from Judaea was led against Ascalon, where was garrison of one infantry and one cavalry cohort under command of Antonius.[116] Jews were utterly defeated.[117]

Now Nero dispatched Vespasian to the East to deal with the revolt. He had at disposal three legions (V, X and XV) followed by 18 *cohortes*; they were joined by five cohorts and one *ala* from Caesarea, five *alae* from Syria. According to Josephus, out of these were 10 *cohortes miliariae* and 13 *cohortes equitatae quingenariae*. Client kings Agrippa II, Antiochus, Soaemus and Malichus II contributed in total 12 000 soldiers (BLOOM 2010, 77-8; 117-118; HORBURY, DAVIES AND STURDY 1999, 161). The army got together at Ptolemaïs in spring 67 CE; at that time citizens of Sepphoris sent embassy to Vespasian and asked for Roman garrison.[118] At first he came to vicinity of Sepphoris and lay siege to Jotapata, building a road for his army as well. The city was razed in June/July 67 CE, with Josephus captured.[119] Soon after detachment of the army seized Ioppe and driven out pirates from there; garrison was established in the city.[120] Vespasian then moved to Caesarea Philippi, where he was entertained by Agrippa II. From there he commanded army out of Scythopolis towards Tiberias, which surrendered without fight.[121] Then Tarichaea was captured by Titus.[122] At this point all of Galilee surrendered to Romans except cities of Gamala, Gischala and fortress on Mt. Tabor. Gamala was taken after several

[112] BJ 2.562-8.
[113] BJ 2.572-6.
[114] BJ 2.577-9.
[115] BJ 2.585-90.
[116] BJ 3.9-12.
[117] BJ 3.13-34.
[118] BJ 3.30-4; 64-9.
[119] BJ 3.127; 141-157; 161-340; 391.
[120] BJ 3.414-431.
[121] BJ 3.443-461.
[122] BJ 3.462-502.

weeks; Mt. Tabor during siege of Gamala and Gischala after that; John of Gischala however managed to escape to Jerusalem.[123] By the end of 67 CE, Galilee was in Roman hands; legions wintered in Caesarea and Scythopolis (BLOOM 2010, 127-8).

In the meantime, civil war between radical zealots and moderate factions broke up in Jerusalem. Zealots prevailed, but they too were divided into competing parties.[124] John of Gischala even invited big party of Idumaeans to help him in seizing power in the city (BLOOM 2010, 144-5; PRICE 1992, 85-94).[125]

Vespasian resumed his campaign in spring 68 CE with march on Gadara in Transjordan which was captured without fighting. Vespasian left for Caesarea and Placidus took command in suppressing revolt in Peraea; conquering Abila, Julias, Bezemoth and Jericho.[126] Vespasian led his main force to Antipatris and from there to Lydda and Iamnia which surrendered to him. He then went on to Emmaus to secure passage to Jerusalem and destroyed several places around toparchy of Bethletephon; fortifying and garrisoning few forts on his way north to Samaria. In Samaria he captured Sichem and then turned to Jericho. Till the assassination of Nero in June 8, when Vespasian suspended military actions, practically all of province apart from Idumaea and Jerusalem was subjugated (BLOOM 2010, 148-150; 155).[127]

In the meantime in the rest of the country war between John of Gischala and Simon bar Gioras rampaged. Simon got hold of Idumaea and marched to Jerusalem, where he managed to conquer Upper city and parts of Lower city, whereas John retained Temple mount and its environs.[128] Vespasian resumed his activity after battles between Otho and Vitellius in April, in April 69. Army captured toparchies of Gophna and Acrabatene immediately north of Jerusalem; while Vespasian's general Cerialis invaded Idumaea and took Hebron. In July Vespasian was proclaimed Emperor by the eastern legions and thus he left command of siege of Jerusalem to his son Titus (BLOOM 2010, 156-8; HORBURY, DAVIES AND STURDY 1999, 162-4; PRICE 1992, 102-7).[129]

The siege began on spring 70 CE with four legions (V, X, XII and XV), 20 auxiliary units and several vexillations from Egypt and Syria taking part. They pitched camps on Mt. of Olives

[123] BJ 4.1-3; 11-83; 92-120.
[124] BJ 4.128-146.; 158-162; 196-207;
[125] BJ 4.224-300; 305-344.
[126] BJ 4.410-439.
[127] BJ 4.440-450; 486-491; 497-8.
[128] BJ 4.503-520; 529-537; 566-584.
[129] BJ 4.545-555; 658.

and to north of the Third wall. All of terrain around Jerusalem was levelled as much as was possible and siege began (BLOOM 2010, 158-160).[130] Titus resolved to attack city from west, unlike his predecessors, and army succeeded to take Third wall with help of three siege-towers around May.[131] Titus moved his camp closer to city to what used to be northern suburb of Jerusalem called Bezetha. Attacks now concentrated on Second and First walls of the city; Second wall fell to Romans just few days after the Third; after that Titus ordered army to build siege wall all around the perimeter of the city.[132] Titus now concentrated on seizing Antonia fortress and attacking rebels in the Palace of Herod. Antonia fell after long fighting at the end of July.[133] Ruins of Antonia served as a rampart for Roman army to invade Temple mount itself, as it happened at the end of August, date 9th of Av is traditionally given (BLOOM 2010, 170).[134] Nevertheless, it took almost another month till the rest of the city was captured. Only towers of Hippicus, Mariamme and Phasael were left standing with some parts of First wall on the west, where garrison was put by Titus, rest of the city was razed.[135]

At this point only three rebel strongholds remained – Herodium, Masada and Machaerous. Titus assigned to new governor of Judaea – now already *legatus Augusti pro praetore*, Lucilius Bassus task of eliminating these threats. Machaerous and Herodium were captured quickly.[136] Bassus died in 73 CE and just shortly after his successor Flavius Silva came to the province the siege of Masada begun. It was captured in April 74 CE, after most of its occupants committed suicide. That is the end of Jewish War (BLOOM 2010, 172-3; HORBURY, DAVIES AND STURDY 1999, 165-7).[137]

### 1.7 In between the wars and Bar-Kochba rebellion (74-135 CE)

Our knowledge of this period is very scarce, since Josephus, our principal source ends his history with the Great Revolt and does not continue further. Certainly, status of province was changed – till ca. 120 CE it was province headed by governor of pro-praetorial rank who had at his disposal Leg X Fretensis stationed in Jerusalem. Governor presided in Caesarea, which was

[130] BJ 5.67-70; 106-9; 128-135.
[131] BJ 5.258-261; 275-302.
[132] BJ 303-316; 331-347; 491-511.
[133] BJ 5.523-5; 6.68-92.
[134] BJ 6.149-156; 220-253.
[135] BJ 6.392-408; 7.1-6.
[136] BJ 7.163-209.
[137] BJ 7.252-5; 275-9; 304-401.

re-founded as a Roman colony by Vespasian. Since ca. 120 CE the governor was of pro-consular rank (BLOOM 2010, 182; KATZ 2006, 25-6; SCHÄFER 2003, 131).

Besides Caesarea, Vespasian established another veteran colony in Emmaus and re-founded Sichem as Flavia Neapolis in ca. 72 CE. Most of the land in the country was now held by Emperor and thus great parts of rural population were now *coloni* on imperial estates. Vespasian also established *fiscus Judaicus* – a tax that was formerly given to the Temple was now income of imperial treasury (BLOOM 2010, 182-3; ISAAC 2000, 112-119; SCHÄFER 2003, 132).

Probably during so-called "Kitos (Quietus'?) war" in 115-117 or soon after the status of province was changed and another legion was moved in in order to prevent spreading of revolt from diaspora to province proper (BLOOM 2010, 179-180; ISAAC AND ROLL 1979, 149-156; KATZ 2006, 108, 100-1; KEPPIE 1973, 859-864; SCHÄFER 2003, 141-2).

We do not know much even about rebellion of Bar Kochba that started around 132 CE. The reasons behind revolt could have been twofold – either Hadrian's ban on circumcision[138] or his intention to re-establish Jerusalem as Aelia Capitolina and to build temple of Jupiter there.[139] The revolt had certain messianic features and Bar Kochba could have been seen as Messiah among some rabbis (HORBURY, DAVIES AND STURDY 1999, 265; SCHÄFER 2003, 149-150). There is also very little information about the course of the revolt. Rebels probably never captured Jerusalem and their positions were confined mainly to southern Judaea, Idumaea and parts of Jordan valley around Jericho, as is indicated by finds from Judaean desert caves and Herodium (KATZ 2006, 108, 110-115). Their tactics was probably similar to guerilla warfare with numerous dug-out or natural caves dispersed around the countryside from where rebels targeted Roman soldiers. At the beginning of the revolt there were two legions in province – XII Ferrata and VI Fretensis under command of Tineius Rufus but rebellion had to be suppressed by as much as four legions – including III Gallica and III Cyrenaica; and Hadrian called his best general Julius Severus from Britain (KATZ 2006, 116, 121-5; SCHÄFER 2003, 155-8).[140]

After the suppression of the revolt the province was renamed Syria Palaestina and Jews were banned from entering new city of Aelia Capitolina, which was systematically paganized (SCHÄFER 2003, 159-160).

[138] Vita Hadr. 14.2.
[139] Dio 69.12.
[140] Dio 69.13-14.

### 1.8 Security threats

From given recollection of history we must try to figure out possible security concerns occurring in Judaea over long period of almost 200 years; which may present certain problem as this security threats could have changed over time. Nevertheless, if we look at the development of the kingdom (and later of province) we see little or no difference between time of last Hasmonaeans and Bar Kochba revolt. Let us sum it up as follows:

1. In internal matters, all throughout Early Roman period persisted threat of banditism, and occasionally, also armed uprising against ruling power (ISAAC 2000, 77-83). At some areas, as in Trachonitis, social banditism was endemic (BLOOM 2010, 39-40; HORBURY, DAVIES AND STURDY 1999, 101-3; ISAAC 1984, 175-6; 178; 181-2; SHATZMAN 1991, 297; 309). Herod resolved this problem by establishment of military colony of Babylonian Jews in the area (BLOOM 2010, 40; COHEN 1972, 83-95; SHATZMAN 1991, 170-9). In Idumaea we know only about one instance of banditry during this period, after death of Agrippa I, and it is uncertain whether this Tholomaeus was Idumaean or Arab.

   Politically and religiously motivated movements were at first prominent during regime changes as rebellions led by Hasmonaeans Archelaus and Antigonus; later after death of Herod so-called Varus' war erupted in which various elements played role – Idumaean military colonists, Herodians, anti-Herodians (of the family of Ezekias in Galilee) and messianic groups (BLOOM 2010, 43-5; PRICE 1992, 6; 12; SCHÄFER 2003, 101). It was during direct Roman rule of Judaea when zealot groups emerged and started to be active in both cities and countryside (BLOOM 2010, 47-8; HORBURY, DAVIES AND STURDY 1999, 133-4; 154; PRICE 1992, 12-15; 17-24; SCHÄFER 2003, 109-111).

   The involvement of Idumaeans in Jewish revolt and their earlier exploits during Varus' war indicates their problematic stance to ruling elites and political regime.
2. External threats were more varied, and, so to say, at some periods almost non-existent since Judaea bordered either with Roman provinces or Roman allies. During earlier part of Herod's reign there existed certain threat stemming from Egyptian queen Cleopatra (HORBURY, DAVIES AND STURDY 1999, 114; RICHARDSON 1996, 67, SCHÄFER 2003, 93)[141]; who probably stood behind war between Herod and Nabataeans that was fought in southern Syria and Transjordan. There were another two instances of armed conflict with

[141] KASHER (1988, 139-140) contests any Cleopatra's intervention.

Nabataeans. One was caused by bandits in Trachonitis and Batanaea, who were supported by Arabians; that led to establishment of military colony (SHATZMAN 1991, 292-7; COHEN 1972, 83-95). Other erupted between Antipas and Aretas IV; according to Josephus the reason was divorce of Aretas' daughter, which naturally brought certain modus vivendi between the two to end. More probable, given the location of war – it took place in former Phillip's tetrarchy, is reason of power vacuum therein after Phillip's death (HOEHNER 1972, 255-6; KASHER 1988, 177-181; PELTIEL 1991; 153).

Vitellius, in retaliation for Nabatean attack, planned to march directly to Petra through Judaea and Idumaea, but withdrew after Tiberius' death.

Moreover, Jews and Nabataeans shared common economic interests in long-distance trade. Negev region was important crossroad, connecting Arabia and Dead Sea with Mediterranean ports. Gaza was primary destination for incense and myrrh from Arabia Felix and for balsam produced in Jordan valley on royal estates (HORBURY, DAVIES AND STURDY 1999, 119; ROCCA 2008, 236-8; SCHÄFER 2003, 90-1). Therefore, Jews and Nabataeans must have been concerned with security in these crucial areas (GRACEY 1986, 315-316; RICHARDSON 1996, 68-71; 250-1; SHATZMAN 1991, 297-8; 302-6).

### 1.9 Disposition of the army

Whereas Hasmonaean armies were influenced and modelled on armies of Hellenistic monarchies, Herodian army was romanized in its organization and tactics albeit retaining local specifics as light infantry units (ROCCA 2009, 10; SHATZMAN 1991, 22-3; 199; 204-214). Gratus and Rufus, officers mentioned in course of Varus' war were certainly Romans or at least Roman citizens. The general of Herod's army was man named Volumnius[142], which also implies him being Roman (GRACEY 1986, 314; SHATZMAN 1991, 209).

Herod's army totaled between 16-20 000 soldiers not including military settlers. Among these were Jews, non-Jews, natives and foreigners. Most prominent among these soldiers was body of *Sebastenoi* – 3 000-men-strong unit of heavy infantry of non-Jews drawn or stationed from city of Sebaste, probably supplemented by cavalry unit. Another high-ranking soldiers were foreign mercenaries, namely Thracians, Galatians and Germans, who together with *doryphoroi* made up royal guard of around 2 000 soldiers (ROCCA 2009, 18; SHATZMAN 1991, 183-5). The rest of army was organized either into units of *teloi* (light infantry) or *lochoi/speirai* (heavy

[142] BJ 1.535; AJ 16.332.

infantry). Josephus uses very general terms for officers in Herod's army such as *strategos*, *hegemon* or *hipparrchos*, perhaps only *chiliarchos* can be identified as equivalent to *tribunus militum*. Only instance of specialized office is *stratopedarchos*, roughly corresponding to *praefectus castrorum* (ROCCA 2009, 10; 14; SHATZMAN 1991, 205-8).

Military colonies in Herod's kingdom were probably modelled on Hellenistic settlements rather than Roman examples (COHEN 1972, 83-95). There existed colony in Sebaste, cavalry veterans were settled in Gaba in Lower Galilee, another body of veterans were present in Idumaea and Peraea. We are best informed about unit of cavalry archers of Babylonian Jews settled in Bathyra in Batanaea. They continued their service even under Phillip and kings Agrippa I and II. Military settlers and veterans were given king's land in exchange for their continued service in army – either as a reserve in times of need or in region of their settlement. These colonists accounted for ca. 12 000 soldiers (BLOOM 2010, 40-3; GRACEY 1986, 313-4; ROCCA 2009, 19-20; SHATZMAN 1991, 170-182).

Situation changed after Judaea became Roman province. Non-Jewish soldiers were still being recruited to service in auxiliary cohorts, but overall strength of the army was apparently reduced and thus diminishing numbers of Jewish soldiers. Some units from other parts of Empire were probably brought to country as well – such as *Cohors Italica* in Caesarea (SPAUL 2000, 26-7).[143] Cavalry *ala* is perhaps mentioned during Paul's transport to Caesarea (SPAUL 1994, 195-7)[144] and *Cohors Sebastenorum* later in the same narrative (BLOOM 2010, 48; ROCCA 2009, 18; SPAUL 2000, 453).[145] We are informed about garrisons in Caesarea, Jerusalem, Sebaste, Cyprus, Machaerus, Masada, Ascalon and Jezre'el plain at the outbreak of revolt. Some estimates put total number of military units to five *cohortes* and one *ala* (COTTON, GEIGER AND THOMAS 1989, 11-13; BLOOM 2010, 48; HORBURY, DAVIES AND STURDY 1999, 136, ISAAC 2000, 105-6, MOR 1986, 577, 580). That would roughly correspond to contingent of *Sebastenoi*. At least on two occasions a whole legion was stationed in Jerusalem, albeit temporarily – after 37 BCE after Herod's conquest and then after Varus' War in 4 BCE.

Legion was stationed in the province permanently after the end of Great Revolt. The base of Leg X Fretensis was Jerusalem while parts of it were at Caesarea and Masada (COTTON, GEIGER AND THOMAS 1989, 16-18; DABROWA 2000, 319, 322-3; FARNUM 2005, 22; YADIN 1967,

[143] Acts 10.1.
[144] Acts 23.23-32.
[145] Acts 27.1.

43-6). In addition to legion, there were probably some auxiliary units in the city as well.[146] From military diploma dated to year 86 CE[147] we learn about presence of two *alae* and four *cohortes* in Judaea. *Cohors I miliaria Thracum* is known to be stationed in Hebron with detachment at En Gedi by year 124 CE (ISAAC 2000, 430; MOR 1986, 577). A garrison existed also on Masada in camp $F^2$ probably up until Hadrianic times (ARUBAS AND GOLDFUS 2008, 1939; RICHMOND 1962, 152). Between 86 and 117 CE, four *auxilia* were transferred out of the province and two units from Egypt were brought in (MOR 1986, 578-9).[148]

Perhaps soon after "Kitos war" another legion was stationed in the province in Legio, also known as Caparcotna/Kfar Otnai in the Carmel range close to Megiddo. It was probably Leg II Traiana (DARIS 2000, 359; ISAAC AND ROLL 1979, 149-156; KEPPIE 1973, 859-864; MOR 1986, 579).[149] After end of Bar Kochba revolt, Leg VI Ferrata was moved to Legio permanently (COTTON 2000, 354). It is reasonable to assume that doubling number of the legions in province meant also strengthening of the auxiliary forces. However this strengthening occurred only after outbreak of hostilities in 117 and 135 CE, so there is no unequivocal evidence for any of the mentioned units to be permanently stationed in Judaea at this time (FARNUM 2005, 20; MOR 1986, 580).

[146] BJ 7.5.
[147] CIL XVI.33.
[148] Coh I Lusitanorum (SPAUL 2000, 56-8), Coh I Thracum (SPAUL 2000, 355-6), Coh II Thracum (SPAUL 2000, 369-370) and Ala Veterana Gaetulorum (SPAUL 1994, 124-5) were moved away; whereas Coh I Thebaeorum (SPAUL 2000, 456-7) and Coh I Hispanorum (SPAUL 2000, 112-3) moved in, albeit perhaps only temporarily beore the conquest of Arabia.
[149] See FARNUM (2005, 17) contrary to this opinion.

# 2 Fortifications

In this chapter, description of each site, which is considered fortification in modern research, will be provided. The description contains following categories: *location* of the site in the region with regard to local topography and road system, geographical coordinates and Israel Grid reference (ITM – Israel Transverse Mercator); note on *literary sources* connected to the site (if there are any); description of the *fortifications* also with account on material culture and dating; and note on *other archaeological finds*, mainly in the vicinity of the site, that can be significant (existence of settlement, agricultural terraces, wells etc.). The sites are listed in alphabetical order (beginning with proper name, not topographical designation like "tel", "horvah" etc.). First of all, definition of fort/fortress will be provided; after description conclusion will follow whether these sites can be considered as fortification according to the definition. At the end of the chapter, parallels and examples of similar structures shall be presented. Sites known only from surveys and other military installations (fortified towns, towers etc.) are listed in separate sub-chapters; they are evaluated together with excavated sites.

## 2.1 Definition of fortifications

The primary function of any fortification is its defense value, the ability to withstand an attack of organized armed forces, sometimes equipped with siege-engines and/or catapults. Of course, we cannot assume that principal function of forts in question was to overcome massive attack of whole army (unlike city fortifications or famous Herodian palace-fortresses). Even though, we may assume that these small forts/fortlets we are dealing with was designed and positioned in such a manner so they could survive small-scale raids or attempts of individual army detachments (as these were principal security threats to the countryside as demonstrated in previous chapter 1.8). This goal is achieved by various means.

But first of all, when we can talk about fortifications? What is fortification and what is not? We can list principal features for identifying fortifications as follows:

1. Location: military fortification is more likely to occupy easily defensible spots in the countryside, usually higher grounds and/or hilltops. Positioning near roads is crucial for troop movement and logistics, also.

2. Occurrence of defensive features:
    a) Restricted and guarded entrance – the structure usually has only one, rather narrow, entrance protected by guards stationed in neighboring guardhouse/guardroom.
    b) Fortification walls – in order to assure maximal possible stability and endurance to them, we can assume certain building techniques and style of construction will occur. It is generally accepted that ashlar masonry built from big blocks of stone is superior to rubble/fieldstone masonry; this is further proved in Philo's[150] and Vitruvius'[151] writings. We may assume that these walls should be, generally speaking, more than 1-1.2 m wide. The width of walls is important not only for endurance in face of attempt to breech it, but also for stability of the structure as whole and as a foundation for upper storeys and/or battlements on top of it. Thus, we are looking for access to upper floors – stairwells are usually easy to identify, unlike access provided by ladders.
    c) Towers – focal points of defense were usually concentrated in the towers[152], which provided space for habitation, storage and fighting platforms to repel enemies. Towers are usually equipped with slits or windows for stationing archers or arrow-shooters/catapults. They also serve other tactical purposes, such as signaling and observation.
    d) Outworks – in some cases, when it was deemed important, additional fortifications outside or on the outer face of main structure, such as ditches, ramparts, glacis or *proteichismata* were built.
3. Accommodation and services: adequate lodging for garrison, storage space and cooking facilities etc. are matter of course, together with supply/storage of water.

According to size and disposition of the structure(s) we can distinguish these types of fortifications:

[150] Philo 1.9-10.
[151] Vitruvius 1.5.1; 1.5.8.
[152] Philo 1.20-22. LAWRENCE 1979, 48-9, 223, 385-6.

1. Fortlet: single structure, usually tower, blockhouse etc.[153]
2. Fort: a complex military structure, usually centered on courtyard, built of several units whose walls form encompassing wall. Provided with towers most of the times.
3. Fortress: site of considerable size comprising of complex system of fortifications, usually featuring curtain walls, towers, gatehouses and various outworks. Capable of holding large military units.
4. City/town fortification: system of fortifications encompassing civilian settlement.

## 2.2 Sites[154]

### *2.2.1 Tel Arad*

Location: Arad (Lat/long: 31°16'50.44"N 35°7'34.48"E; ITM: 212009/576562) is located in the north western area of the Negev region, in between two "spurs" extending from the southern Hebron hills (the one reaching Tel Malhata area and the second is circumventing Arad from the East), ca. 8 km west-north-west from modern city of Arad and ca. 27 km east-north-east from ancient Tel Beersheva. Neighboring area is generally flat intersected with several minor wadis, several kilometers west from Arad actually begins Nahal Beersheva. The plain of the Beersheva valley is slowly rising here from ca. 480 to 550 m. a. s. l. and more in the north. The tel itself reaches maximum height on its northern side, so called "acropolis" where the fort stood, at 568 m. a. s. l. Some 2 km northwest from the tel lies small ridge reaching ca. 620 m, which is connected to the highland in the North. At the foot of the tel goes important north-south route connecting Aravah with the Judaean highland. The ascent to the mountainous region begins ca. 3 km north from the tel; it is still in use but traversed by modern road.

Literary sources: There is no single reference to Arad in Josephus and other contemporary sources. However, the site is mentioned few times in the Bible (which is well with accord in relation to archaeological research) but that is hardly of any use to present study.

The fort: As was said above, the fort stood on the highest spot of the tel. We can distinguish two phases (strata III and IV) with different architectural remains roughly dated from Early Hellenistic to Roman period. Since the stratigraphy and chronology of the site in question

[153] Note that these do not exactly fall within the requirements for structure to be identified as fortifications. These structures should be first of all evaluated in other terms – as belonging to farmsteads, fields etc., only when these possibilities are ruled out, we can speak about their possible military functions.
[154] See Map 2.

during these periods is debated and far from being resolved, I shall examine both fort and hopefully it will shed some light on the chronology problem.

In stratum IV the acropolis of the tell saw construction of massive tower ca. 19 × 19 m[155], with almost 5 m thick walls. In NEAEHL it is stated, that actual tower measured only 12 × 12 m and the rest of the thickness formed only a base[156] (AHARONI *et al.* 1993, 85). It was founded directly on bedrock, obliterating earlier remains. From the south western corner extends wall for ca. 12 m then it turns northward and runs for another ca. 30 m, there it turns eastward for ca. 15 m to several meter wide opening. From there it runs again ca. 12 m, then it turns southward and joins north-eastern corner of the tower. It thus forms a courtyard on the northern and western side of the tower (Fig. 3). Several big rooms adjoin courtyard wall on northern, western and southern side (six in total). Wall of this enclosure is ca. 2 m wide (AHARONI AND AMIRAN 1964, 144; HERZOG *et al.* 1984, 29; SHATZMAN 1991, 55; ROCCA 2008a, 178), inner wall ca. 1.3 m. Masonry of the tower and enclosure is double-face, *emplekton* type. It consist of medium-sized roughly hewn ashlars of local limestone and flint-stone with filling of rubble and small stones to level the courses; upper courses of the wall are usually made from more regular and better fitting ashlars.

We learn from preliminary report (AHARONI AND AMIRAN 1964, 144) that the floor of the tower was not recovered in course of excavations. This fact prevents us from establishing firm date for construction and lifespan of this building, although datable ceramic material (3rd – 2nd century BCE) was retrieved in rooms adjoining courtyard.

This fortress was completely dismantled and in stratum III totally new one was built. The building measures ca. 20 × 25 m in its center is large courtyard ca. 13 × 13 m with rooms on all four sides (ca. 12 in total; Fig. 3). The entrance was in all probability located in the northern side. On the northern and eastern side the fort is adjoined by rectangular enclosure, extending total area of the structure to ca. 31 × 37 m with at least one room on the outer northern face of the fortress[157]. The walls were generally thin – 1 m and less, built from medium-sized roughly hewn fieldstones in courses bound together by mortar mixed with small rubble. Pilasters in the northern and southern walls supported roof in three rooms on the west (AHARONI AND AMIRAN 1964, 144; HERZOG 1984, 30; SHATZMAN 1991, 242).

[155] Note that dimensions of tower vary from one publication to the other. From the published plan in "Arad Inscriptions" (AHARONI 1981) however, it is possible to put the length of each side of the tower to ca. 20 m.
[156] Perhaps a *proteichisma*? Netzer and Mazar, however, claimed that these two dimensions represent two stages of the tower, see NETZER – MAZAR 1986, 88.
[157] Arrangement similar to Horvat Uzza, see below.

In no preliminary report is stated the nature of recovered material (e.g. pottery), mentioned are only two Greek ostraca (HERZOG 1984, 30) and fact that "material on the floor of the fort was scanty" (HERZOG 1984, 30). However, in Arad Inscriptions (AHARONI 1981, 8) Aharoni writes that most of the finds ascribed to this stratum was found at the foot of the tel and in garbage dumps with no or very little material found inside the fortress. In another publication (AHARONI *et al.* 1993, 85) the pottery found on the floor is dated to the 1st c. BCE. Therefore as Shatzman points out (SHATZMAN 1983, 143) the fort could be dated anywhere between the end of 1st century BCE and Bar-Kokhba revolt. However, because of strong similarity between phase II structure at Arad with clearly dated structure at Beersheva (see further), I tend to ascribe its conception to the same period, i.e. turn of 1st/2nd c. CE.

Other archaeological finds: In the lower city of the tel the earlier well was cleared and several watering facilities were built nearby, together with a cistern and a mikwe. There also stood two buildings with unspecified function. This phase was attributed to the stratum IV of the fortress, which is, however, coined "Herodian" in the lower city. Nevertheless, one can assume that there existed either small civilian settlement, or well and other structures were used by the fort garrison (AMIRAN AND ILAN 1982, 3-4; 1983, 4-5; 1985, 6-7).

### *2.2.2 Tel Aroer*

Location: The tel (also called Horvat Aroer, lat/long: 31°9'6.72"N 34°58'43.70"E; ITM: 197949/562272) is located on the southern side of the valley of Nahal Beersheva where the ground starts to rise and forms northern spurs of Negev highlands, ca. 2 km west from modern Bedouin settlement Arara ba-Negeb. Aroer lies on one of the hills forming southern boundary of the valley slightly below 450 m. a. s. l. It is divided by two wadis on east and west from neighboring hills (the one to the east is lower, while the one on the west is rising higher). In the south it is connected by low saddle to the rest of the ridge continuing in this direction. Several hundred meters east of the tel, in the valley of Nahal Aroer, begins ascend to the Negev highlands, a very important route linking wilderness, and Nabatean trading route from Petra to Gaza especially, to the Judaea proper in the north. Ca. 1.5 km south-east from the tel is group of wells. Site offers excellent viewing conditions in northern direction, albeit worse in the south due to hills of approximately same height.

Literary sources: There are no sources mentioning this fort; however the name "Aroer" comes from Bible and the existence of Iron Age settlement was also proved by the excavations.

The Fort: Structure is located on the southern edge of the hill on its highest point and it roughly extends along whole southern side of the hill. It is composed of two main components – tower and courtyard.

The tower (12.5 × 11.25 m; Fig. 4), whose foundation was laid at 444-447 m. a. s. l., was built with 1.5 m wide walls of two-faced ashlar masonry with filling of rubble and small stones in between (similar to *emplekton* style masonry). Outer face was made of ashlars with marginal dressing and squared boss in the center; ashlars of inner face were plain. Masonry was not bound together by mortar. Walls of the tower were preserved to maximum height of 2.5 m, which is less than total height of the first storey. The tower was surrounded by low wall (0.8-1 m), either sloping or with trimmed top, on all four sides; wide 2.5 m and 1.8 m on the southeastern side respectively. Inner space was divided into four rooms with paved floor on foundation of beaten earth and layer of gravel. Entrance room (5.8 × 3 m) apparently served also as a kitchen, room south of it (6.8 × 4.5 m) was biggest and underneath was constructed a cellar (4 × 2.5 m) with vaulted ceiling. Entrance (1.3 m wide) was located in western wall and it was accessible only through 8.5 m long corridor leading to the north delineated by two walls – one was abutting wall of the courtyard, the other outer wall of the tower. Both inner and outer faces of the walls of the tower were plastered. The tower had at least one more storey; accessible by ladder since no remnants of stairs were discovered (THAREANI *et al.* 2011, 316-322).

The courtyard measures 35 × 30 m and is enclosed by 1.5 m wide plastered walls, constructed in the same manner as walls of the tower. Its southwestern wall meets wall of the tower immediately south of the tower entrance; southeastern wall meets the tower at northeastern corner. Only small portions of the enclosing wall and court itself were excavated, therefore neither entrance nor additional structures were found (THAREANI *et al.* 2011, 326).

*Terminus post quem* for violent destruction of the tower, documented by large conflagration of material, ash and charred wood remains, is given by two coins (THAREANI *et al.* 2011, 322) from the year 2 of The First Jewish War (67/8 CE). Foundation date of the fort is more difficult to set; the ceramic assemblage of the stratum Ib (late Second Temple period) points to late 1st century BCE/early 1st century CE either by king Herod or Agrippa II, whose coins were found in excavations, unlike Herod's (THAREANI *et al.* 2011, 362-3, 391, 403-4).

Stone vessels, mortars, whetstones and various bone tools and utensils as well as three arrowheads, one of them could possibly be part of catapult projectile, were found in the fort in both pre-destruction and destruction deposits (THAREANI *et al.* 2011, 379-383. Plates 264-8). Very rare is find of copper shield *umbo*, associated with destruction layer (THAREANI *et al.* 2011, 386-7. Plate 269).

Other archaeological finds: Settlement extended along the north and northeastern part of the hill adjoining Iron Age wall in several stretches on the east. According to pottery evidence there was meager settlement, maybe not permanent, already at 3rd century BCE, albeit structural remains date to the 1st century BCE/1st century CE. Remains consist mainly of structures with several rooms and *tabuns* – ovens. Limestone vessels found on the site point to Jewish presence there (THAREANI *et al.* 2011, 326-335, 399, 401, 404-5.). Faunal remains recovered in area H (living quarters) belong mainly to sheep and goat, with small number of cattle, pigs and perhaps donkeys. Considerable amount of bones was ascribed to unspecified bird species (THAREANI *et al.* 2011, 268-9, 279).

*2.2.3 Tel Beersheva*

Location: The tel (Lat/long: 31°14'41.23"N 34°50'26.50"E; ITM: 184807/572660) is located at the confluence of Nahal Beersheva and Nahal Liqiyah in the western part of the Nahal Bersheva valley, just on the edge of the hill-spur stretching from Beni Na'im, some 4.5 km east of Old city of Beersheva with its water wells. The tel reaches ca. 307 m a. s. l. and it rises around 20 m above its surroundings, therefore it provides good lookout around gently-rolling valley of Nahal Beersheva. It is important communication hub as routes from east (from Arad via Malhata), north (from Hebron) and south-east (Aroer) meet here and continue to the west in direction to Gaza and other coastal cities.

Literary sources: Josephus mentions Beersheva (Βηρσουβαί, Βερσουβεε) in connection with Biblical stories re-told in first several books of his Antiquities. Important is AJ 1.212 where he speaks about so-called "Abraham's well" or "Well of the Oath" that is called like this "*…by the people of the country unto this day*," which may be allusion to existence of (at least) the well(s) in the Josephus' days (MÖLLER AND SCHMITT 1976, 49).

The Fort: The nature of archaeological remains from Hellenistic to Early Roman Period at Beersheva is hard to assess since only excavation report on the so-called Roman fort was

published in full. A short section of casemate wall, dating perhaps from Persian-Hellenistic period, was excavated under south-eastern corner of the Roman fort (Fig. 1); and it is generally thought it went out of use after conquest of John Hyrcanus or Alexander Jannaeus in late 2nd or early 1st century BCE (SHATZMAN 1991, 56)[158]. During Herodian period (late 1st century BCE/early 1st century CE) there stood "palace" excavated on the north-western part of the tel, furnished with Roman-style bathhouse (HERZOG 1993, 173). The Roman fort was then built partly above this structure, it is nowhere stated if the "palace" was destroyed or dismantled.

The Roman fort measures 31.5 × 30.8 × 31.1 × 32.5 m, it consists of large courtyard (ca. 16 × 16 m) with rooms (17 in total plus entrance) abutting outer walls of the fort on all four sides (Fig. 2). Walls are built on foundations of fieldstones 0.6-0.8 m wide in foundation trench which is 0.2-0.3 m wider than the walls. Upper courses of the wall were built of hewn limestone ashlars without any specific dressing such bosses and marginal drafting. The entrance room (5.7 × 4 m) was located on the eastern side; it was paved with limestone slabs, only in corners the paving (with dimension varying between 1.75-2 × 0.7-0.95 m) consists of smaller wadi stones, possibly serving as foundation for benches. Entrance itself is 2.1 m wide in the outer wall and 2.8 m in the inner wall. In distance of 3.35 m from southern row of rooms in the courtyard were found three bases (0.9 × 0.8 m) made of wadi stones, perhaps supporting a shade (FRITZ 1973, 83-4).

Three rooms on the western side (700, 358, 352) formed one unit. Central room (358) measures 5 × 4.6 m, with 3.3 m wide opening to the court; it was paved with limestone slabs in similar manner as entrance room. In northern corner, a small platform (1.5 × 1.3 × 0.4 m) was located, coated with white plaster. This unit was interpreted as *principia* of the fort (FRITZ 1973, 85). The disposition of the rooms along northern, southern and eastern side of the court allows us to distinguish several other units – on both northern and southern sides we find three big rooms and a unit comprising of two smaller rooms; on the eastern side there were two rooms on both sides of the entrance. In several rooms, bases of pilasters (ca. 0.55 × 0.35 × 0.25 m) were found attached to walls with hewn limestone block on the floor level. They supported either vaulted ceiling or flat roof (FRITZ 1973, 84-5).

Outside the fort, on the eastern and southern side, parts of stamped earth floor were discovered, possibly part of outer un-walled courtyard (since no walls attributable to this

[158] In original Aharoni's publication (AHARONI 1973a, 7; also AHARONI 1971, 230-2) he identified three floors within this structure, where last floor was attributed to the 1st century BCE/1st century CE, but it was dismissed during later work on the site, see HERZOG 1993, 173.

courtyard were found). The slopes of the tel were covered with stamped earth and in some parts also with layer of pebbles (FRITZ 1973, 83).

*Terminus a quo* for the foundation of the fort is a coin found in one of the walls, dated to the time of Trajan[159] (AHARONI 1972, 169-170). However, some activity on the tel pre-dates the First Jewish War, as is indicated by provincial coins of Ascalon (4/3 BCE), coins of Roman procurators and Agrippa I (KINDLER 1973, 91; KUSHNIR-STEIN AND GITLER 1994, 16*). Terminus post quem* for the abandonment of the fort (there was no destruction layer and almost no finds in the fort itself, which points to the evacuation rather than destruction) may be established by coin of Neapolis (Shechem) minted in 251/3 CE (KINDLER 1973, 91; FRITZ 1973, 86-7).

Other archaeological finds: Water drainage channel, originating in the Iron Age, leading from the upper part of the tel to the well on eastern slope, was still in use during Hellenistic and Roman period (AHARONI 1973b, 254-6), another channel led to the bathhouse, but it was destroyed by the building of the fort (AHARONI 1974, 40). Next to the bathhouse a plastered cistern was also excavated, its connection to the fort is, however, unknown (AHARONI 1973a, 7). Ca. 150 m east of the tel several floors from Hellenistic and Roman age were excavated, documenting possibly existence of civilian settlement under the tel in these periods (AHARONI 1975, 165-6).

### *2.2.4 Tel Malhata*

Location: The site (Lat/long: 31°13'2.20"N 35°1'32.75"E; ITM: 202418/569537) is located approximately in the middle of valley of Nahal Beersheva, near to the confluence of wadis Nahal Malhata and Nahal Beersheva, on the left bank of the earlier. It is quite low hill (ca. 398 m a. s. l.), rising only ca. 10 m above its surroundings. Closeness of the wadi bed causes the level of underground water to be high and so several wells are to be found in the vicinity of the tel. It lies ca. 8.5 km north-east from Aroer, ca. 4.2 km south-east from Tel Ira and ca. 11.9 km south-west from Tel Arad. Its central position in the valley caused the site being crossroads of north-south road from Negev to Judaea, as is documented by short stretch of paved Roman road found ca. 2.5 km south of the tel[160], and east-west route, linking region of Dead Sea to the Mediterranean coast (BEIT-ARIEH 2011a, 17).

[159] Other post-war coins include mints of Vespasian and Domitian; see KUSHNIR-STEIN – GITLER 1992-3, 16.
[160] BEIT-ARIEH 2003, 27 (site no. 32, ITM 201500/567200; 31°11'45,744"N 35°0'57,78"E).

Literary sources: Malhata is the only site mentioned in Josephus and linked to the events of the 1st c. CE. Agrippa I is said to stay here before moving to the court of his uncle Antipas in Tiberias.[161] That implies time in late 20s or early 30s CE. Josephus uses term "tower in Malatha of Idumaea" (πύργον ἐν Μαλάθοις τῆς Ἰδουμαίας), which may be reference either to some kind of fortification or (fortified) manor house as Applebaum suggested (APPLEBAUM 1967, 285). From Notitia Dignitatum[162], much later source from 5th c. CE, we learn about stationing of Cohors Prima Flauia in Moleaatha, indicating existence of fort here.

The Fort: Even before the outset of the excavations, there were outlines of fortifications visible on the ground. It is rectangular structure ca. 75 × 55 m (Fig. 6). However, only small parts of it were excavated, so we do not know much about its internal layout. Along eastern side were located two long-rooms. Either by survey or by excavations, additional casemates along the walls were identified – five on the north, eight on the west and five along southern wall (BEIT-ARIEH 1998, 38; TAL, forthcoming), at least two casemates were paved with stone slabs (BEIT-ARIEH 1993, 936). The enceinte of the fort is 1.25 m wide, built of roughly hewn ashlars with filling of small stones to level courses of masonry (BEIT-ARIEH 2011a, 23). During excavations, two strata were distinguished belonging to Hellenistic (2nd-3rd c. BCE) and Late Roman period (2nd/3rd-4th c. CE, BEIT-ARIEH 1998, 30-31; BEIT-ARIEH 2008, 1917). However, later re-examination of the material brought to light pottery evidence of activity during Early Roman period (1st-2nd c. CE). The site seems to be abandoned during 1st c. BCE, as there appear only pottery types belonging to the first half of the 1st c. BCE and few coins of John Hyrcanus or Alexander Jannaeus (TAL, forthcoming).

Concerning Roman age fort, excavations in the casemates were limited, thus we cannot elaborate on functions and development of the structure. There were at least two Roman and Byzantine phases. Since the outer wall of fort did not see any alterations and floor of Late Roman phase seems to correspond to earlier plan of structure, it is possible to assume that structure of fort stood already in the later part of 1st c. CE. The first phase ended in the late 2nd/early 3rd c. CE with abandonment of the site, thus sharing similar development as e.g. Hovat Uzah and Tel Beersheva (TAL, forthcoming).

Other archaeological finds: On the summit in Area G west of the fort several Roman age installations of unknown purpose were scattered (TAL, forthcoming). North of the site, across

[161] AJ 18.147-8.
[162] Not. Dig. Partibus Orientis XXXIV.

Nahal Malhata, lies smaller tel – named Tel Malhata (Small), that was inhabited during Byzantine period. South and East of the main tel lies settlement originating in Late Roman-Byzantine period (BEIT-ARIEH 2011a, 17; ELDAR AND BAUMGARTEN 1993, 936-937).

*2.2.5 Horvat Salit*

Location: The site (Lat/long: 31°19'21.52"N 34°57'44.35"E; ITM: 196395/581256) is located on the westernmost "spur" of the Judaean highland, which descends towards Beersheva on the south-west, ca. 1 km east of modern settlement Meitar and ca. 14 km north-east of Tel Beersheva. It lies on the ridge above western bank of Nahal Estemoa ca. 467 m. a. s. l., the ridge rises in north-western direction, thus obstructing view in this direction, otherwise it does not lack good outlook, commanding Nahal Eshtemoa and Harei Ira. The old road from Beersheva ascending towards highland lies just few hundred meters to the west, between fort and Meitar. Another road goes from junction on the ridge above fort in south-east direction; it descends towards Nahal Estemoa valley and then proceeds to Tel Ira in one direction and Tel Malhata in another.

Literary sources: There are no sources mentioning this fort; that is the reason it is only known under modern name Horvat Salit (Khirbet Salantah in Arabic).

The Fort: Structure (oriented north west – south east) comprises of two components – tower and courtyard building adjacent to southeastern side of tower (Fig. 8). Tower measures 20 × 18.9 m, its walls are generally 1.2-1.5 m thick, northern wall of tower is as wide as 2-2.5 m; built from roughly hewn flint-stone ashlars in coursed masonry with filling of smaller stones and earth for levelling the courses. Exceptions are to be found in the northern and western outer walls of the tower, there were utilized big trapezoidal stones in lower courses. Entrance (1.6 m wide) was located on the northeastern side, it leads to guardroom (4.8 × 3.6 m) on raised floor. Outer face of the wall next to the entrance is somewhat sloping inside, resembling *glacis*. The inner area of tower is divided into eight rooms connected by corridors, three of these rooms (g, h and possibly also i, 10 × 3.5 m) may have served as storerooms. Stairs leading to upper floors were located near southwest corner. Several steps along southeastern side led to corridor from where was access to courtyard of the adjacent building (ALON 1986, 94-5).

Courtyard building (30.7 × 18.8 m) consists of rectangular courtyard, several wings with rooms and plastered walls and subterranean complex. The Western wing comprise of 8 rooms, all

covered in color plaster, in one room was discovered low bench, rock-cut basin, considerable quantity of terracotta figurines (animals and people) and inscriptions in Greek and another language,[163] in another room was oven. The entrance (1.4 m wide) to the building was located in the Southern wing; it led to guardroom with benches. In Eastern wing two ovens were installed, there was also located entrance to one part of subterranean complex which consisted of stepped mikwe (2.8 × 2.5 m 1.55 m deep). Another mikwe (3×1.9 m 2.1 m deep) and two subterranean rooms (no. 26, 28) were reached through room in northern part of the courtyard (ALON 1986, 95-6).

Excavator distinguishes two phases – construction and later reconstruction with raised floors. In the second phase all the mikwaot were reused as ordinary water cisterns and in rooms 26, 28 were constructed ovens. To the Eastern wing were added two long rooms, perhaps storerooms. The South-eastern entrance was narrowed to just 1 m (ALON 1986, 95-6).

Among findings was Eastern Terra Sigillata, Herodian lamps, stone vessels and usual composition of local ware, all dated to the 1st – 2nd century CE. *Terminus post quem* for abandonment of the site gives us coin hoard composed of coins ranging from Vespasian to Hadrian, sometime around Bar-Kokhba revolt. The site was destroyed by fire (ALON 1986, 96).

Other archaeological finds: Fort stands alone in this spot; there are no features or structures immediately adjacent to it. In the vicinity of the fort, however, is located possibly one another fort (see below).

*2.2.6 Horvat Uza*

Location: The fort (Lat/long: 31°12'33.26"N 35°9'55.92"E; ITM: 215754/568641) is located on the high hill (543 m a. s. l.) encircled on east and south by valley of Nahal Qina, that descends on north in direction to Arad; on the south-eastern margin of Nahal Beersheva valley. It lies ca. 6.5 km south-west of modern day Arad and ca. 9 km south-south-east of Tel Arad. The area on east and south is rocky with deep wadis; it reaches highest point several kms east of the site on Har Yahel (614 m a. s. l.) from where it falls steeply towards southern end of the Dead Sea.

[163] This language is not specified in the preliminary report.

Literary sources: There are no sources mentioning this site. However, it is identified as Biblical Qinah, mentioned in connection with David's early tales before his kingship[164] (BEIT-ARIEH *et al.* 2007, 1, 4).

The Fort: The rectangular fort was founded here during the Iron Age in 7th century. It was abandoned after the fall of Kingdom of Judah and re-established only during the Hellenistic period. The Hellenistic fort utilized eastern half of the Iron Age fort, building new western wall dividing the old fort in half. New dimension are thus 42 × 33 m (39 × 30 m inner dimension) (BEIT-ARIEH *et al.* 2007, 57). The fort has eight towers, four in the corners and four in the middle of curtains; seven out of eight towers were built in the Iron Age; the last was constructed in the middle of new western wall. The width of old and new walls is 1.5-2 m built in dry masonry in 2-3 rows of flint-stone; some of them are considerably big (0.7 × 1 m). Corner towers measures 3 × 3 m, protruding ca. 1.8-2 m from the wall, intermediate towers measure ca. 2-4 m, protruding 1.5 m from the curtain (BEIT-ARIEH *et al.* 2007, 15, 57).

The central area was big courtyard, bounded on at least two sides by rectangular rooms (Fig. 5). The gate remained in the north east wall, but the floor was raised by 1.1 m and the entranced was narrowed to 1.2 m. Gateway was paved by stone slabs; on its south was located guardhouse. There were two rooms along northern wall (guardhouse and long room) and four rooms along western wall. In front of one room on the western side stood silo (ø = 2 m, 0.9 m deep). In the biggest room in the west pavement, made of stone slabs, was excavated (BEIT-ARIEH *et al.* 2007, 57, 60).

In the Roman period, the outer walls and guardhouse with entrance was left unchanged; now there were rooms built all around the courtyard, which was further reduced by installations built in it. Also, it seems that kind of a glacis, firstly built during the Iron Age, was in use during this period and it was paved, at least in one stretch along eastern wall, by stone slabs. Rooms along northern wall continued on the same layout to this period. On the western side, there were now only three rooms, two of them paved with stone slabs and one covered in plaster, and two L-shaped platforms (one 6 × 3.5 m under intermediate tower, other 6 × 2 m under north-western corner tower), possibly providing access to the curtain wall and strengthening curtains (BEIT-ARIEH *et al.* 2007, 62, 65).

[164] 1 Sam 30.27.

Several rooms along southern wall contained ovens, refuse pits and various stone installations. Excavations in one of the rooms exposed sequence of three floors from Roman period; earlier two floors were of beaten earth and lime, later floor of rough stone paving (BEIT-ARIEH *et al.* 2007, 65, 68-9). The complex of rooms on the eastern side has three distinctive architectural phases; in the first there was single long room (18 × 4.5 m). In the second, new building was constructed on different plan (9 × 4.5 m); in the last phase, several smaller rooms were built along the curtain wall. The only installation is located in the meeting point of the walls of the eastern and northern walls, small podium with four steps and small balustrade was set up there (BEIT-ARIEH *et al.* 2007, 69, 71).

Outside the fort, on its northern and eastern side, two stone enclosures were built (Fig. 5). Northern (A), roughly rectangular measures 32 × 39 m and it is divided by partition wall to four smaller compartments. Its wall meets fort wall south of the entrance and thus, it must have been built after establishment of the Hellenistic fort. Eastern enclosure (B) is irregular and divided into two compartments (25 × 29; 21 × 23 m) with gate (5 × 5.5 m), connecting both parts on the southern side. On the floor of the gate few Late Roman sherds were recovered (BEIT-ARIEH *et al.* 2007, 72).

Among various finds recovered at the site is complete iron spearhead and several flint sling-stones (ca. 8 cm in diameter), attesting military nature of the site (BEIT-ARIEH *et al.* 2007, 270, 272). Faunal remains are comprised of bones of domestic animals (sheep, goats, cows and in small numbers also pigs) in both Hellenistic and Roman periods. In Hellenistic assemblage occur bones of horses and camel. Horses are absent from Roman era assemblage; hen/cock bones, however, occur in great numbers (BEIT-ARIEH *et al.* 2007, 292-7).

The Hellenistic fort was in use definitely during 2$^{nd}$ c. BCE and apparently, it was abandoned after conquest of John Hyrcanus as is indicated by the pottery assemblage (BEIT-ARIEH *et al.* 2007, 335). It remained abandoned for the most part of 1$^{st}$ c. BCE. The Roman reconstruction occurred during 1$^{st}$ c. CE; oil lamp found on the earliest floor in locus 661 belonging to the type following after "Herodian" lamps (BEIT-ARIEH *et al.* 2007, 231) and coin of procurator Antonius Felix (54/5 CE) (BEIT-ARIEH *et al.* 2007, 286) points to the 2$^{nd}$ half of the 1$^{st}$ century CE.

Other archaeological finds: Roman-era settlement extended on the eastern slope of Nahal Qina, just several dozen meters north-east of the fort[165]. Two cisterns south of the fort and group of three cisterns 300 m south of the site, in the tributary of Nahal Qina, were possibly exploited from the Iron Age to the final abandonment of the site (BEIT-ARIEH *et al.* 2007, 55).

*2.2.7 Nahal Yattir site*

Location: The so-called Nahal Yatir site (Lat/long: 31°17'16.53"N 34°57'54.10"E; ITM: 196658/577390) is located on top of the steep hill (ca. 424 m a. s. l.) above valley of Nahal Yatir that is part of the middle "spur" extending from Hebron hills towards Malhata. It lies ca. 3.9 km south of Horvat Salit, which is almost exactly north of it, and ca. 6.4 km north of Tel Ira; in the vicinity of modern day Arab town of Hura.

Literary sources: There are no extant literary sources concerning this site.

The Fort: It is rectangular structure measuring 22.5 × 32.4-36.5 m with 1.5-2 m wide walls built from limestone and flint-stone blocks, plaster on inside and outside. In the middle stood roughly square courtyard (12.5 × 12.5 m) with rooms on all four sides of it (Fig. 9). Three plastered flight of steps were attached to three sides of the court, leading either to the roof or second storey. Courtyard also contained opening to large plastered cistern. Series of long rooms on west and south with several smaller ones (nine in total) were used as storerooms according to the excavator; smaller rooms on north and west than as an accommodation and service rooms. The entrance was located on the northern side; it was originally 1 m wide, later, it was narrowed to half the width. It led to guard-room with benches along its walls. In the four rooms (no. 1, 2, 4 and 6) on the northern side were openings leading to the underground spaces under these rooms; to these led a channel bringing water from the courtyard cistern. According to the excavator, this underground system was dug only in the final phase of the fort. The rooms 1, 2 and 3 formed a unit ca. in the middle of the eastern side of the fort; from rooms 1 and 2 led stairs towards thick wall separating this unit from central courtyard (ALON 1987, 154-6. GUVRIN 1991, 51). This unit was not accessible on the courtyard level and thickness of the walls on three sides (east, south and west), reaching ca. 3 m, may suggest existence of a tower with entrance from upper storey.

Among the finds were large amounts of pottery, stone vessels, grinding a threshing stones as well as fragments of glass vessels and, quite rare find, two seals, one bearing Latin inscription

[165] BEIT-ARIEH. 2011b, site 24.

and the second Hebrew. Numismatic finds cover long time span: there is one coin of Nabataean king Aretas IV (9 BCE-40 CE), two coins struck under Pontius Pilate and Antonius Felix, one coin from the time of First Jewish Revolt and 14 provincial mints from the reign of emperors Vespasian, Trajan and Hadrian, together with one coin from Bar-Kokhba revolt. The fort was apparently destroyed by fire, as is documented by charred remains, traces of burning on the walls, together with skeletal remains of several people in underground caves, during or after Bar-Kokhba revolt; which is supported by numismatic evidence (ALON 1987, 156. GUVRIN 1991, 51). In fact, Alon claims that underground system, more restricted entrance and some reinforcements to the walls were added by Jewish combatants in course of the revolt (ALON 1987, 158).

Other archaeological finds: As far as is known, the fort stood alone. There were no features or sites identified in immediate vicinity of it, belonging to this period. However, there existed two settlements less than 2 km away from the site – one on south on hill above Nahal Yattir and the other on east (Horvat Soah).

### 2.3 Surveyed sites

Sites listed here are known primarily from the Archaeological Survey of Israel conducted on behalf of IAA. In our region, four surveys, covering 400 sq. km, were undertaken and published[166]. Following information are based completely on these surveys, thus we must bear in mind several limitations of these data:

1. Identification of purpose of the structure (farm, fort etc.) based purely on the field observations is merely tentative and only excavations may proof or disapprove these assumptions.
2. Lifespan of these structures is based on pottery collected on the surface. However, there may be no connection between the material on site and actual visible remains.
3. There was no attempt to date collected material precisely, simply because there is no secure way how to distinguish e.g. later part of Early Roman period from beginning of Middle Roman etc. Therefore, the pottery is broadly classified either as "Hellenistic-Roman", "Roman-Byzantine" or simply "Roman". Only later publication by Jodi Magness (2003) made dates more precise and distinguishes Early Roman period.

[166] Nahal Yattir map (GUVRIN 1991), Tel Malhata map (BEIT-ARIEH 2003), Nahal Beqa'a (BAMUGARTEN 2014) and Horvat Uza map (BEIT-ARIEH 2011b, http://www.antiquities.org.il/survey/).

It is also important to note that only Nahal Yattir survey yielded additional forts.

*2.3.1 Harei Anim*

A rectangular fort (ca. 31 × 34 m) with courtyard (Fig. 10), located on the western edge of Harei Ira (Lat/long: 31°15'43.32"N 34°57'43.52"E; ITM: 19640/57450) – the middle "spur" of the Hebron highlands – on a low hill (ca. 442 m a. s. l.); ca. 3 km south from Nahal Yattir site and 3.9 km north-north-west from Tel Ira. Walls are built of large flint-stones, of double-face masonry. Width of the walls is given as 0.9 m. Pottery collected on site points to Roman-Byzantine period, perhaps also Persian (GUVRIN 1991, 74; site no. 174). However, re-examination by MAGNESS (2003, 43) showed that all pottery is Early Roman.

*2.3.2 Nahal Anim*

A rectangular fort (ca. 12 × 15 m), located in the valley of Nahal Beersheva on the eastern bank of Nahal Anim – a right-bank tributary of Nahal Beersheva (Lat/long: 31°14'20.17"N 34°56'51.40"E; ITM: 19505/57200), ca. 375 m a. s. l. It lies ca. 3.7 km west from Tel Ira and ca. 10.3 km east from Tel Beersheva. Its 1 m wide walls are built of medium and large sized flint-stone. In the courtyard stands a structure (3.5 × 5 m) of unknown purpose. Pottery collected on site points to occupation during Roman period (GUVRIN 1991, 85; site no. 210). According to MAGNESS (2003, 50-1) all pottery falls to the Byzantine period.

*2.3.3 Nahal Beersheva*

A small rectangular fort (ca. 10 × 10 m), located at the southern slope of the Harei Ira spur (Lat/long: 31°13'33.50"N 34°58'29.39"E; ITM: 19730/57040) on a small elevation (ca. 392 m a. s. l.). It lies ca. 1.3 km south-west from Tel Ira, ca. 1.6 km north-east from Tel Masos and ca. 5 km north-west from Tel Malhata. Its walls are built of medium sized limestone and flint-stone blocks with width around 0.8 m. Pottery collected on site suggests occupation from Roman to Byzantine period (GUVRIN 1991, 100; site no. 272).

*2.3.4 Beer Tarshan (b)*

A rectangular fort (ca. 13.5 × 18 m), located in Harei Ira spur (Lat/long: 31°15'11.12"N 34°58'16.99"E; ITM: 19725/57350) on southern bank of Nahal Anim, ca. 1.3 km south-east from Harei Anim fort and 2.6 km north-west from Tel Ira. Its 0.8 m wide walls are built of medium to large sized flint-stones (GUVRIN 1991, 80-1; site no. 198 (b)). Nevertheless, MAGNESS's (2003, 47-8) re-examination of pottery points clearly to Byzantine-Early Arab period.

*2.3.5 Horvat Bikhra*

A rectangular tower (9.5 × 10 m), located on a hill (ca. 454 m a. s. l.), between Nahal Yattir on the north and Nahal Bikhra on the south, on a mountainous spur extending to Beersheva (Lat/long: 31°18'10.03"N 34°58'54.67"E; ITM: 19825/57900), ca. 2.9 km south-east from Horvat Salit and ca. 2.3 km north-east from Nahal Yattir site. Its 1.5 m wide walls are built from large roughly-hewn flint-stone blocks set in two-faced masonry. Entrance was recognized near south-eastern corner. The inner space was divided into two equally big chambers by 1 m wide wall (Fig. 7). Pottery collected on site ranges from Hellenistic, through Roman and Byzantine to Arab period (GUVRIN 1991, 32; site no. 12).

*2.3.6 Givat Meitar*

A rectangular fort[167] (11 × 13 m), located on the westernmost spur extending to Beersheva (Lat/long: 31°18'39.99"N 34°56'24.39"E; ITM: 19430/57995) on a hill (ca. 454 m a. s. l.). It lies ca. 2.5 km south-west from Horvat Salit, 3.5 km north-west from Nahal Yattir site and ca. 11.9 km north-east from Tel Beersheva. Its 1 m wide walls are constructed in two-faced masonry from large rough-hewn stones in outer face and smaller stones in inner face. Pottery collected on the site points to Hellenistic and Roman occupation (GUVRIN 1991, 31; site no. 8).

*2.3.7 Nahal Soa*

A rectangular fort (20 × 24 m), located on the western edge of Harei Ira spur (Lat/long: 31°16'12.01"N 34°57'30.25"E; ITM: 19605/57540) on a hill promontory (ca. 441 m a. s. l.), ca. 2.1 km south-south-west from Nahal Yattir site and ca. 4.9 km north-west from Tel Ira. Masonry consists of medium to large flint-stones placed in header-stretcher technique. Outer walls are 0.9 m wide, inner 0.6-0.8 m. Entrance in the southern side leads to courtyard (11 × 15 m), with rooms on north (three big rooms measuring 5 × 6 m), south and west. Collected pottery points to Roman and Byzantine occupation (GUVRIN 1991, 65; site no. 139). After re-examination of the pottery by MAGNESS (2003, 35) there is distinguishable Early Roman and Byzantine phase.

*2.3.8 Tuwaiyil el-Mahdhi*

A rectangular fort (30 × 30 m), located on a hill (ca. 437 m a. s. l.) on the westernmost mountainous spur in the modern day town Hura (Lat/long: 31°17'31.50"N 34°56'20.01"E; ITM: 19415/57785), ca. 2.5 km west from Nahal Yattir site and ca. 4 km south from Horvat Salit.

[167] I would identify this structure as tower in spite of its dimensions and layout resembling other towers, see below.

Entrance on the east led to courtyard (17 × 22 m) where cistern is located. Rooms adjoined courtyard on north, south and east. Walls were 1 m wide on the outer face, built of large flint-stones; and 0.6 m wide on the inner face built of smaller stones. Pottery collected on the site points to Roman, Byzantine and Medieval occupation (GUVRIN 1991, 46; site no. 68). MAGNESS (2003, 24-25) identified all diagnostic pieces as belonging to the Early Arab period (8th-9th c. CE) though few pieces can be broadly identified as Roman or Byzantine.

*2.3.9 Nahal Yattir site 2*[168]

A rectangular fort (12 × 12 m), located on a low hill (ca. 395 m a. s. l.) between Nahal Yattir (east) and Nahal Hura (west), on the south-east outskirt of modern day town Hura (Lat/long: 31°16'44.17"N 34°56'35.73"E; ITM: 19460/57640), ca. 2.3 km south-west from Nahal Yattir site and ca. 5.2 km south-west from Horvat Salit. Fort comprises of two chambers divided by a corridor. Its outer walls are 1 m wide, built of large sized flint-stone. Pottery collected on the site comes from Roman and Byzantine period (GUVRIN 1991, 56; site no. 104).

*2.3.10 Nahal Yattir site 3*

A rectangular fort (8 × 8 m), located in the Nahal Beersheva valley (ca. 343 m a. s. l.), ca. 5.5 km east from Tel Beersheva and ca. 8.5 km west from Tel Ira (Lat/long: 31°14'47.53"N 34°53'52.91"E; ITM: 19040/57285). Its 0.5 m wide walls were built of medium sized flint-stones and wadi stones. A courtyard built of small wadi stones, with 0.4 m wide walls, (11 × 15 m) adjoins the structure on the north. Pottery belongs to Roman and Byzantine period (GUVRIN 1991, 84; site no. 207). According to MAGNESS (2003, 50) all pottery falls to the Byzantine period.

## 2.4 Other military installations

In this chapter, other fortifications such as fortified settlements and sites with doubtful identification etc. will be listed, for the sake of account of fortifications being complete. Although their military nature is not so clear, they are included in the spatial analysis in order to clarify their function.

[168] All sites along Nahal Yattir are named in this way. In order to distinguish it from other forts I use my own numbering system.

*2.4.1 Tel Ira*

Location: The site (Lat/long: 31°13'59.51"N 34°59'10.69"E; ITM: 198577/571313) is not classical tel, instead it is elongated flat-top hill located on the "middle" spur stretching from Hebron hills to Nahal Beersheva valley, ca. 4.3 km north-west from Malhata, ca. 9.2 km north of Aroer and ca. 14 km east from Tel Beersheva; near 200 mm isohyet, on the border where growing of crops is still possible. The summit of the hill (514 m a. s. l.) rises approximately 100 m above the valley to its south and ca. 50-60 m on the north side; it was separated from the rest of hilly spur and the valley by steep slopes on three sides, with low saddle on the north (BEIT-ARIEH *et al.* 1999, 9). Ancient settlement covered whole summit, extending over an area of ca. 2.7 ha. The hill lies nearby to the road connecting Arad, Malhata and Beersheva; and also to one that runs from Malhata in direction to Hura, Horvat Salit and Nahal Yattir in the north west.

Literary sources: There are no literary sources alluding to the existence of this settlement; however, the site existed also in the Iron Age and several propositions were put forward as to identify it with several places mentioned in the Old Testament (BEIT-ARIEH *et al.* 1999, 15).

Fortifications: The whole summit was encircled by stone wall originating in the Iron Age. The wall was 1.45-1.7 m wide built of medium-sized worked block of flint-stone in "quasi-isodomic" manner (stones overlapped the joint of two stones below them). This wall was revetted a little bit down the slope by another wall (0.5 m wide, 1.3 m high) built in the same manner as the latter (BEIT-ARIEH *et al.* 1999, 170). The only gate stood on the east, in the narrowest spot of the hill. Great part of it was destroyed due to the construction of a Byzantine building built over it, but it was possible to establish a plan – it was 6-chamber gate similar to other Iron Age gate-systems known from Israel. If the gate, or parts of it, were used during Early Roman period is not known (BEIT-ARIEH *et al.* 1999, 71-2; 172)[169].

Continual usage of Iron Age city wall in the Hellenistic and Early Roman period is attested by the fact, that during these periods new houses were built abutting it and the wall itself was rebuilt and at some places strengthened by another retaining wall (0.7 m wide) made of slightly larger stones than those used in Iron Age fortifications (BEIT-ARIEH *et al.* 1999, 51; 173-4).

According to pottery evidence, the settlement existed between late 4th/early 3rd c. BCE and late 1st/early 2nd c. CE (BEIT-ARIEH *et al.* 1999, 290-9). Conspicuous is total absence of

[169] Nevertheless, Byzantine activity may have destroyed the Roman era remains as happened for example in area M, where only oven and parts of floor attest to Roman stratum, see BEIT-ARIEH *et al.* 1999, 126.

Herodian and Early Roman coins, the last datable pieces are attributed to John Hyrcanus I (135-104 BCE) and Aretas II/III (110-62 BCE) (BEIT-ARIEH *et al.* 1999, 440). Of importance is also absence of limestone vessels, indicative of Jewish presence at the site[170]. As to the military matters, only several arrowheads and knifes were recovered (BEIT-ARIEH *et al.* 1999, 462-4).

*2.4.2 Uncertain sites*

In course of his survey, focusing on the Roman limes sites in the Negev, Gichon identified three sited, which he attributed to the Herodian period on account of pottery and other material collected on these sites and interpreted them as towers (GICHON 1974, 542; GICHON 1975, 158).

These towers are Givat Hablanim[171] (Lat/long: 31°11'34.64"N 34°47'40.25"E; ITM: 180425/566913), Horvat Mizbeah (Lat/long: 31°10'54.86"N 34°56'31.57"E; ITM: 194448/565660) and Givat Tzan[172] (Lat/long: 31°11'41.89"N 34°49'15.08"E; ITM: 182896/567129). All of them occupy high, prominent hilltops; Givat Hablanim (ca. 360 m a. s. l.) and Givat Tzan (ca. 355 m a. s. l.) lies south of Beersheva, ca. 7.3 km resp. 5.8 km south-south-west from Tel Beersheva, ca. 2.5 km away from each other, in the highlands. Horvat Mizbeah (ca. 428 m a. s. l.) is located on the southern edge of Nahal Beersheva valley, rising high above it, ca. 4.8 km north-west from Tel Aroer and ca. 8.8 km south-west from Tel Malhata.

All measures ca. 10 × 10 m and they are built of local limestone or flintstone. Gichon gives details on masonry only for Givat Hablanim – regular ashlar masonry – and Givat Tzan that was built of roughly hewn blocks or fieldstones (GICHON 1974, 542; GICHON 1975, 158).

In addition to these towers, three more were identified during Nahal Yattir survey. They include Givat Mahat[173] (GUVRIN 1991, 38; site no. 36), Nahal Yattir 4[174] (GUVRIN 1991, 71; site no. 164) and Nahal Molada[175] (GUVRIN 1991, 74; site no. 172). All of them are rectangular structures 5×5 m (4×4 m in case of Givat Mahat) base with walls 0.5-0.8 m wide built of small to large flint stones. Givat Mahat and Nahal Yattir 4 were dated to Roman and Roman-Byzantine

[170] Although Jewish presence at the site was postulated in connection to pottery typical of late 1st/early 2nd c. CE originating in central part of Judaea – as an indication of refugees from the destruction of the Temple, see BEIT-ARIEH *et al.* 1999, 174.
[171] If is this site to be identified with site 12 of Ya'akov Baumgarten's survey of Nahal Beqa'a (map no. 132), then we must adopt dating to Byzantine period (BAUMGARTEN 2014, site 12).
[172] Byzantine period according to Baumgarten (2014, site 7).
[173] Lat/long: 31°17'45.528", 34°56'24.144"; ITM: 194284/578286.
[174] Lat/long: 31°15'54.288", 34°55'56.170"; ITM: 193536/574862.
[175] Lat/long: 31°15'37.116", 34°57'33.948"; ITM: 196121/574326.

period respectively, but Magness' re-evaluation of pottery showed that both sites yielded Early Roman material (MAGNESS 2003, 15; 41) Given their small size, it is reasonable to assume, that their height did not exceed 5 m.

### 2.5 Assessment of the sites

We may now conclude this chapter with short assessment of the sites we were focusing on in our study area (Tab. 1). We can see that:

1. We are dealing principally with simple forts and/or fortlets, as they were defined in the beginning of the chapter, i.e. structures centered on courtyard without massive fortifications or outworks (with possible exception at Tel Malhata) or generally small structures.
2. Following first point is fact that since these structures are rather small and simple, we cannot easily apply other criteria outlined in section 2.1. Only few sites have walls wider than 1 m (Arad phase 1, Aroer, Malhata, Salit, Uza, Nahal Yattir site, Bikhra, Ira). Regular ashlar masonry is not norm, either (Arad phase 1, Aroer, Beer Sheva phase 2, Bikhra, Salit, Soa). Outworks were recognized only at Aroer and towers at five sites (Arad phase 1, Aroer, Malhata, Salit, Nahal Yattir site). However restricted and guarded entrance is encountered on practically every site.
3. All but three sites (Nahal Anim, Beer Tarshan (b) and Nahal Yattir 4) are located on hilltops or prominent ridges.

It necessarily follows that only few sites can be clearly identified as military fortified sites. However, rest of the sites could not be easily ruled out, for their positioning, absence of agricultural installations, features such as restricted access, ashlar masonry, and compact layout with central courtyard among others points to their non-settlement and non-agricultural function. We may, for now, assume them being bases of detachments of larger military units with yet unknown purpose. On the other hand, I argue for removing site of Nahal Yattir 2 from the list on basis of it structural features (no courtyard, small size, masonry), since these cannot be attributed to neither fort or tower.

There is also need to turn to the issue of date for these sites. From the available evidence it seems that few sites did not survived Great Revolt. That applies to Aroer and possibly for Tel Ira as well. Besides, at least Beer Sheva phase 2, H. Salit and probably Arad phase 2 were

conceived only after the end of war, most probably on turn of 1st/2nd century CE. Concerning surveyed sites the evidence presented is ambiguous. Guvrin's survey very often provides only general date for the sites, not distinguishing Early/Middle/Late Roman periods. However, Jodi Magness' re-examination of pottery from Guvrin's survey brings light to this issue to certain extent. If we are to accept his conclusions, we must drop four sites from our research – Nahal Anim, Beer Tarshan (b), Tuwaiyil el-Mahdhi, Nahal Yattir site 3. Then there is Baumgarten's survey of Nahal Beqa, if sites 7 (Givat Tzan) and 12 (Givat Hablanim) are identical to sites surveyed by Gichon, and their attribution to Byzantine period is correct, these two must be excluded, too. Let us return to Guvrin's survey – his description of "Roman-Byzantine" pottery probably denotes "Late Roman-Byzantine" wares, therefore we must exclude Nahal Beersheva site. Therefore, from 24 sites identified in the surveys or excavated only 16 can be with various level of certainty attributed to Early Roman period (Map 3).

### 2.6 Analogous sites from Israel

For the type of site with massive tower and forts centered on courtyard with rooms around it (Arad, Aroer, Salit, Nahal Yattir site) there are numerous similar sites from Early Roman period. Not far from region of interest, ca. 13 km north from Arad, lies Rujm el-Hamiri (Fig. 12). Sites consist of large tower 9×9 m built from large hewn limestone blocks with thick (2.5 m) *proteichisma* reaching 3.5 m high. Fort had 1-1.5 m wide outer walls, central courtyard and rooms on northern and southern side of it (BARUCH 1994, 140-1; 2010, 21-37). Other similar sites are known from region south of Hebron, like Khirbet Khams or Khirbet el-Muraq (BARUCH 1996). In more northerly direction, there is site Ofarim (Fig. 11). Tower is smaller (ca. 7×7 m) but *proteichisma* is again 2 m thick, inner part of tower is divided into two rooms. Courtyard structure is smaller (9.5×11 m) with rooms on southern side. Site was dated to 1 c. BCE/1st c. CE (RIKLIN 1997, 95-8).

Site that needs to be mentioned is Horvat Mezad, located on ancient road ascending from Emmaus to Jerusalem (Fig. 14). The earliest structure was 4-room tower, ca. 10×10 m with small forecourt, dated to Hellenistic period. Later on, additional structures were added to the tower and wall with casemates was built around the complex. This phase was dated to Herodian period and remained in use till Great Revolt (FISCHER *et al.* 2012, 15-29). The site was interpreted as a road station controlling traffic on important road and providing some services for pilgrims coming to

Jerusalem (FISCHER *et al*. 2012, 36; 281-9). On another road approaching Jerusalem from west stood fort Giv'at Shaul with big rectangular tower and courtyard fort. Tower originated in Hasmonaean period, the fort was added during Herodian times (TZAFERIS 1974).

In the north of the country, similar structures were erected as well. Fortress at Horvat Eleq is probably prime example, combining several features typical for tower-forts and courtyard fort at Horvat Uza. It is a big complex (62×77.5 m) surrounded by 2-m-wide wall with seven towers and one gate flanked with two bastions (HIRSCHFELD *et al.* 2000, 687-9). The inner space of fortress was built up by three multi-room structures; two of them were attached to the outer walls. In the north-western quadrant of the fortress stood rectangular tower (13.3×11.5 m) with 3.2 m wide proteichisma; the tower was separated from the rest of fortress by a small gate (HIRSCHFELD *et al.* 2000, 247-256). The site was constructed in the last quarter of 1st c. BCE and ceased to exist in the 2nd half of the 1st c. CE probably due to events of Great Revolt (HIRSCHFELD *et al.* 2000, 684-5). Smaller site was constructed at Sha'ar ha-Amaqim east of Carmel Mountains at the opening of the Jezre'el valley. It consist of a rectangular tower (13.3×12.3 m) with a low outer wall not connected to the masonry of the tower itself as it was common in previous cases (SEGAL *et al.* 2014, 35-9).

It is important to stress that these sites (Horvat Mezad, Giv'at Shaul, Horvat Eleq, Sha'ar ha-Amaqim) share similarities in type of masonry (headers-stretchers and bossed ashlars) and their date (Hellenistic to Early Roman till Great Revolt). However, only few sites in our study area share these similarities; especially in terms of building techniques, which can be ascribed to different type of stone used (most of the structures in study area are built of flint stone instead of limestone). Only Arad and Aroer show almost identical features. Also, while we stress military aspect of these sites, a competing theory was proposed by Hirschfeld (1998), who sees them as fortified manor houses of country's elite and rejects their direct connection to military.

The towers of these sites are paralleled to some of the identified structures in the surveys e.g. Horvat Bikhra and Giv'at Meitar – rectangular buildings (around 10×10 m) with wide walls and simple inner division of space.

For the courtyard type of fortress we must look elsewhere, but not far away. Some 35 km west of Petra, in central Negev stood complex of structures at the site known as Moyet Awad (Fig. 16). The biggest structure was coined "khan" it is 40×40 m building with spacious central courtyard and rooms all around it with small bath facility in the western part. Several dozen meters west of it stood smaller structure (17×17 m) with central courtyard and rooms around it,

termed as “fort”. Two another smaller structures and a pool was researched as well. Some parts of complex were in use from 2nd c. BCE and it ended at least in 3rd c. CE (COHEN 1982, 242-3; 1993, 1139; ERICKSON-GINI AND ISRAEL 2013, 28; ISAAC 2000, 129-130).

Similarly big structure (42×42 m) was excavated 23 km west from Moyet Awad at the descent to Maktesh Ramon. Mezad Sha’ar Ramon (Fig. 15) again comprises of central courtyard and rooms built around it. It was built during 1st c. CE and was used till 3rd c. CE (COHEN 1993, 1145; ERICKSON-GINI AND ISRAEL 2013, 39-41). Among other courtyard road-stations in central Negev from Nabataean or Early Roman period are e.g. Mezad Be’er Menuha (21×18.5 m), Horvat Dafit (23.7×18.2 m) and Mezad Neqarot (17×12 m). In central Coastal plain a very similar central courtyard structure was erected on Tel Michal (Fig. 13), close to coastal road. In Hasmonaean times it was 24×27 m big with central courtyard and rooms around it. During 1st c. CE it was completely rebuild on slightly larger foundations (37.5×30.5 m) with small tower (5×5 m) located in the central courtyard (HERZOG *et al.* 1989, 175-6; 188-190).

Apart from their structural similarities to sites in our study area, we may note also building techniques (roughly hewn masonry with filling of rubble for levelling the courses) and their general orientation to important communications in the region (COHEN 1993, 1135-1142; ERICKSON-GINI AND ISRAEL 2013).

# 3 Settlements

In this chapter, the evidence for civilian settlements in the area will be evaluated. Again, we face similar problems as with fortifications since most sites are known only from surveys. As in previous chapter information regarding *name*, *location*, geographical coordinates and ITM grid reference with brief overview of finds and discussion on chronology. All sites will be listed in alphabetical order regardless of them being excavated or only surveyed.

## 3.1 Sites[176]

### *3.1.1 Harei Anim*

Location: Site sits on a steep slope of the hill overlooking valley of Nahal Anim, ca. 4.8 km north from Tel Ira. Lat/long: 31°16'10.3296"N, 34°59'08.8440"E; ITM: 198620/575363.

The site: Settlement consisted of one terraced main structure (8.5×8.5 m) with one courtyard adjoining it on west and two on the east. Ca. 50 m southwest of the complex two bell-shaped rock-cut cisterns were located.

Guvrin dated pottery assemblage to the Byzantine period. However, later reexamination by Magness showed also Early Roman material present at the site (GUVRIN 1991, 66; site no.148; MAGNESS 2003, 35-6).

### *3.1.2 Nahal Anim*

Location: The site is located in the valley of Nahal Anim, some 3.5 km north from Tel Ira and ca. 1.4 km south from farmstead on Harei Anim. Lat/long: 31°15'32.1322"N, 34°59'11.0373"E; ITM: 198755/574209.

The site: Remains were found immediately on the west bank of the wadi. They consist of rock-hewn cistern and badly preserved outlines of structure with at least 20 m long wall ca. 10 m west from the cistern.

Ruins were dated roughly to Roman-Byzantine period by Guvrin; Magness on the other hand ascribed pottery to Early Roman and possibly also Byzantine periods (GUVRIN 1991, 76; site no. 183; MAGNESS 2003, 43).

[176] See Map 2.

*3.1.3 Nahal Anim 2*

Location: The site is located on the bank above the wadi Nahal Anim in the place of confluence with another smaller wadi running from north. It lies ca. 3.2 km north-west from Tel Ira and ca. 2.2 km south-west from site of Nahal Anim. Lat/long: 31°15'07.3424"N, 34°58'06.2809"E; ITM: 197040/573449.

The site: This is another site that lies in the valley of Nahal Anim, above the west bank of the wadi itself. There are located one rock-hewn cistern connected by channel to the wadi and three spacious rock-hewn chambers, two of them have central pillar supporting roof. They were interpreted as granaries. Guvrin gives only rough sketch of chronology as Roman-Byzantine period (GUVRIN 1991, 80; site no. 197).

*3.1.4 Khirbet Amra*

Location: Settlement lies on a gentle slope only few hundred meters west from modern town of Omer; ca. 3.2 km north from Tel Beersheva. Lat/long: 31°16'11.9517" N, 34°50'24.9756"E; ITM: 184841/575472.

The site: In course of two salvage excavation seasons between 1993 a 1994 remains of Byzantine settlement were recovered. In at least two areas (I and ST) structures and floors dated to Roman period were documented. In area I, a foundation of structure 15×17m with central courtyard and six rooms arranged around it was found. A smaller three-room structure was excavated ca. 300 m to the east in the area ST (TAHAL 2000, 124-6).

*3.1.5 Tel Aroer*

See previous chapter 2.2.2.

*3.1.6 Beer Tarshan (a)*

Location: Settlement that stretches for few hundred meters along wadi of Nahal Anim is located in between sites of Nahal Anim and Nahal Anim 2, ca. 1.5 km south west from the former and only ca. 700 m north east from the latter. Lat/long: 31°15'20.5108"N, 34°58'23.7199"E; ITM: 197502/573853.

The site: Settlement consists of several features dispersed along banks of the wadi. On the slope above the bank a big structure (40×45 m) is located with central courtyard and smaller courtyards on the western side. South of this farmhouse two smaller structures were found. Three wells were identified, one on eastern bank of wadi, two on the eastern one. South of the wells two

rock-hewn cistern were identified. On the cliff above wadi, just west from one of the cisterns rock-cut granary was found.

Guvrin identified collected material as coming from Roman and Byzantine-Early Arab period. Yet, Magness' reexamination of the pottery showed only Early Arab material with perhaps some Late Byzantine (GUVRIN 1991, 80-1; site no. 198; MAGNESS 2003, 47-8).

*3.1.7 Nahal Beersheva*

Location: Site lies above banks of tributary wadi to Nahal Beersheva, ca. 8.1 km south-east from Tel Beersheva and ca. 8.6 km south-west from Tel Ira. Lat/long: 31°13'17.3964" N, 34°54'34.6824"E; ITM: 191388/570043.

The site: Remains of the settlement are heavily disturbed by recent agricultural cultivation. Only scatters of building stones and pottery were found. The material was dated to Byzantine period, but Magness classified it to Early Roman period (GUVRIN 1991, 95; site no. 254; MAGNESS 2003, 61).

*3.1.8 Nahal Hur*

Location: Site is located on low lying hill close to wadi of Nahal Hur, at the outskirts of modern day town of Hura, ca. 1.1 km south of settlement at Horvat Hur. Lat/long: 31°16'38.9892"N, 34°55'52.6764"E; ITM: 193446/576210.

The site: Only big scatters of pottery were collected on surface, no structures were described. The material was interpreted as Byzantine, but Magness recognized also Early Roman pottery (GUVRIN 1991, 55; site no.99; MAGNESS 2003, 28-9).

*3.1.9 Horvat Hur*

Location: Large settlement extends on southern slope of Harei Yattir hills covering two low hills and a saddle between them. It lies ca. 3.5 km south west from Nahal Yattir site and ca. 11.5 km north west from Tel Beersheva. Lat/long: 31°17'09.0187"N, 34°56'03.8149"E; ITM: 193809/577204.

The site: Remains of settlement that covers almost 20 ha (200 dunams) consist of various structures – houses, granaries, agricultural installations and most prominently Byzantine church with monastery. Material collected in course of Guvrin's survey indicated span from Iron II to Early Arab periods. Magness re-examination of allegedly Roman and Byzantine material showed

this pottery belongs to Byzantine and Early Arab period (GUVRIN 1991, 45; site no. 63; MAGNESS 2003, 20-2).

*3.1.10 Horvat Hur 2*

Location: Small site is situated on gentle slope several hundred meters south west from Horvat Hur. Lat/long: 31°17'10.3308"N, 34°55'41.5092"E; ITM: 193158/577222.

The site: Row of structures and few other structures adjoining them were documented together with Byzantine pottery. Later, pottery was divided into Early Roman and Late Roman-Byzantine phases (GUVRIN 1991, 43-4; no.60; MAGNESS 2003, 20).

*3.1.11 Tel Masos*

Location: The site consists of two tels rising above confluence of Nahal Beersheva and another minor wadi, ca. 14.5 km east from Tel Beersheva and ca. 5.5 km west from Tel Malhata. Lat/long: 31°12'46.4897"N, 34°58'03.8928"E; ITM: 196967/569111.

The site: During Aharoni's excavations in 1970's on the smaller southern hill a structure was recovered, that was at first interpreted as Roman villa. Finds of Early Roman pottery and stone vessels typical for Herodian Judaea are indicative of civilian Jewish presence on the site. Later, excavators realized that structures in fact belong to Medieval Nestorian monastery and Roman material has no connection to it. It is assumed that presence of settlement was only short, perhaps constituted of refugees coming from destruction of Judaea after the Great Revolt (AHARONI 1974, 65; 71).

*3.1.12 Nahal Molada*

Location: The site lies almost in the center of survey area of Nahal Yattir map, on moderate slope several hundred meters from wadi of Nahal Molada. Lat/long: 31°15'30.0562"N, 34°56'46.2068"E; ITM: 194923/574153.

The site: The remains of two farmhouses were recorded ca. 400 m apart and so they are listed as two separate sites in Nahal Yattir map. Both consist of central house with central courtyard and adjoining rooms, pens and courtyards. Pottery recovered at the sites was dated roughly to Roman-Byzantine period; Magness' more elaborate dating showed Byzantine and Early Arab material. (GUVRIN 1991, 73; sites no. 169, 170; MAGNESS 2003, 42-3).

*3.1.13 Nahal Qina*

See previous chapter 2.2.6.

*3.1.14 Tel Shoqet*

Location: This site is a low tel (ca. 10 m) in the plain of Biqʿat Hattil on the west bank of wadi Nahal Hevron, ca. 3.6 km north west from Horvat Hur and ca. 10.2 km north east from Tel Beersheva. Lat/long: 31°18'35.2440"N, 34°54'28.2600"E; ITM: 191282/579858.

The site: On the eastern and northern slopes of the tel various structure remains were found, together with cistern at the foot of the tel. Top of the site was not surveyed as there is contemporary Bedouin cemetery. Material collected on the surface of the site points to continuous occupation from Iron II to Early Arab period. Magness, concerned with Roman and Byzantine material showed that there is only Late Byzantine and Early Arab pottery, not Roman (GUVRIN 1991, 29-30; site no. 3; MAGNESS 2003, 9-12).

*3.1.15 Horvat Soa/Harei Anim*

Location: A settlement that sits on top of a hill ca. 540 m a. s. l. in Harei Anim range stretching to eastern, western and southern slopes; ca. 4.4 km north from Tel Ira. Lat/long: 31°16'18.4578"N, 34°59'08.6283"E; ITM: 198694/575635.

The site: Area covered by various remains is around 1 ha (10 dunams) large. On the southern slope stood Byzantine church and rectangular complex attached to it. Various walls, structures, pens and caves were found nearby. Few hundred meters to south east, another site in Nahal Yattir survey was recognized. It consists of large enclosure with a room and two bell-shaped cisterns in the vicinity. Potter was dated to Roman-Byzantine period; Magness' re-examination showed that pottery belongs exclusively to Byzantine period (GUVRIN 1991, 67-8; sites no. 150, 153; MAGNESS 2003, 36-7).

*3.1.16 Nahal Soa*

Location: The site is located above the northern bank of wadi Nahal Soa, tributary of Nahal Hur, ca. 3.5 km south west from Nahal Yattir site and 9.5 km north east from Tel Beersheva. Lat/long: 31°15'53.8848"N, 34°56'26.7828"E; ITM: 194342/574848.

The site: There are altogether three groups of structures on an area of ca. 1 ha (10 dunam). Western group has central building (15×15 m) with courtyard and one other outer courtyard. Second group consists of row of rooms with irregular courtyard and the third consists only of two rectangular rooms. Material collected in course of the survey was dated to Byzantine period. However, Magness' study re-dated some of it to Early-Late Roman period (GUVRIN 1991, 72; site no. 166; MAGNESS 2003, 41).

*3.1.17 Khirbet Tatrit*

Location: Extensive site is located on the hill above Nahal Hevron to its east, on the edge of the hill country of the south western Hebron highland. It is located ca. 4.4 km north west from Horvat Salit and ca. 14.5 km north east from Tel Beersheva. Lat/long: 31°21'02.6579"N, 34°55'51.0340"E; ITM: 193288/584400.

The site: The settlement covers ca. 7 ha (70 dunams) and consist of various structural remains and installations. Material collected on the surface showed Hellenistic, Roman and Byzantine pottery among others (KOCHAVI 1972, 81; site no. 249).

*3.1.18 Nahal Yattir 2*

Location: The site is located on the edge of a hill, near to its summit, ca. 1.3 km southwest from Nahal Yattir site, overlooking wadi of Nahal Yattir to its west. Lat/long: 31°16'43.6642"N, 34°57'21.1349"E; ITM: 195852/576418.

The site: There is only one small structure, heavily disturbed by recent activity. Pottery was dated as Roman-Byzantine in Guvrin survey. Magness re-dated them to Byzantine period (GUVRIN 1991, 59; site no. 114; MAGNESS 2003, 31).

*3.1.19 Nahal Yattir 3*

Location: It is located on moderate slope above eastern bank of wadi of Nahal Yattir, only ca. 800 m south west from Nahal Yattir site and ca. 11.9 km north east from Tel Beersheva. Lat/long: 31°17'07.5012"N, 34°57'27.0108"E; ITM: 195931/577108.

The site: Remains belong to single farmstead with central structure of 7×10 m and several courtyards that adjoin it. Pottery was identified as Byzantine, later it was reclassified as coming from Early Roman and Byzantine periods (GUVRIN 1991, 48-9; site no.78; MAGNESS 2003, 27).

*3.1.20 Nahal Yeshua*

Location: The site sits on a hilltop above wadi of Nahal Yeshua, ca. 1.8 km south east from Nahal Yattir site and ca. 5.2 km north from Tel Ira. Lat/long: 31°16'47.6593" N, 34°58'56.1331"E; ITM: 198365/576536.

The site: Structural remains consist of two small buildings (4×4 m and 3×5.5 m) ca. 20 m apart. Pottery was only roughly attributed to the Roman-Byzantine period in Guvrin's survey, after re-examination it was showed it comes from Byzantine period exclusively (GUVRIN 1991, 60; site no. 119; MAGNESS 2003, 31).

*3.1.21 Nahal Yeshua 2*

Location: This site is located nearby to the previous one, on northern slope of the neighboring hill, ca. 350 m to the east. Lat/long: 31°16'45.2076"N, 34°59'09.3394"E; ITM: 198714/576459.

The site: There are two independent structures located at some distance from each other (ca. 200 m). The first, on the slope close to the summit, is rectangular building (25×35 m) with several rock-hewn cisterns to its south. The other, at lower elevation near the wadi to the north, is rectangular structure (17×29 m) with one room on inside and two more on the outer side of its walls. Material was only roughly dated to the Roman-Byzantine period. Magness' re-examination showed at least two phases of occupation – from Early to Late Roman and then in Early Arab period (GUVRIN 1991, 60-1; sites no. 122, 123; MAGNESS 2003, 32-3).

*3.1.22 Horvat Yittan*

Location: Low mound lies between wadi of Nahal Yattir to its north and Nahal Molada to its south, ca. 1.3 km from confluence of the two and ca. 8 km north east from Tel Beersheva.

The site: On the summit of low mound are visible remains of a farmhouse (35×45 m) with rooms arranged on east and west around central courtyard (20×20 m) with stone installations. On the north west of the site stood two rectangular structures (20×30 m) with courtyard and rooms around it. South of the structures bell-shaped rock-hewn cisterns are located. Pottery collected on the site spans from Persian to Early Arab period. Magness' study of allegedly Roman and Byzantine material showed Early Roman and Byzantine-Early Arab phases (GUVRIN 1991, 70-1; site no. 162; MAGNESS 2003, 38-40).

## 3.2 Assessment

From this overview of the sites identified as civilian settlements in various surveys we may conclude three basic observations (Tab. 2; Map 3):

1. Out of 22 recorded sites only 16 yielded material datable to the Early Roman period. Out of these we must point out Tel Masos, which was probably only temporary refuge for people fleeing the destruction of Judaea after Great Revolt (see above). Since very few sites were excavated (H. Amra, Aroer, N. Qina, H. Tatrit), we may only guess what imprints left this war on settlement pattern. Yet, example of Aroer – destroyed and then re-settled albeit on smaller scale – shows that even the destruction did not have to mean

an end of the occupation. Thus, all 16 sites except for Masos will be treated in the analysis together.

2. Most of the sites are again located in the Yattir region with only five sites placed either in the valley of Nahal Bersheva itself (Kh. Amra, N. Beersheva, Masos) or on its southern and eastern fringes (Aroer and N. Qina).
3. Majority of the sites are not extensive settlements but rather small hamlets or single isolated farmsteads. There are very few "concentrated" villages such as H. Amra, Aroer, H. Tatrit or fortified settlement at Tel Ira, mentioned in previous chapter. We may assume that even though settlement density was highest in Yattir region number of people inhabiting the region was rather low and population was scattered – probably due to scarce resources such as arable land and water.

# 4 Spatial analysis

In this chapter we will review the concepts behind spatial analysis in archaeology; then the goals and the methodology will be evaluated, together with the presentation of data. In following parts results of the analysis in GIS will be presented and evaluated.

## 4.1 Spatial analysis in archaeology

The spatial analysis is generally among GIS community defined as a "*process of examining the locations, attributes, and relationships of features in spatial data through… analytical techniques in order to address a question or gain useful knowledge. Spatial analysis extracts or creates new information from spatial data.*"[177] What is crucial for these types of analytical tools is therefore the spatial information of the features under scrutiny. These tools varies from simple visualization (e.g. distribution map) to more refined (geo-)statistical tools or vector operations (e. g. overlay, buffer etc.). It follows that spatial analysis is concerned with patterns of features which are computed and/or analyzed (CONOLLY AND LAKE 2006, 149; WHEATLEY AND GILLINGS 2002, 126). The visibility (viewshed) and movement (cost-surface) analyses are often grouped under "spatial data analysis" umbrella as well (CONOLLY AND LAKE 2006, 13; 46).

In archaeological sphere spatial analysis was employed also for predictive modelling, i.e. predicting of archaeological characteristics of places (or features) from their non-archaeological characteristics – usually spatial but often environmental as well (WHEATLEY 2004). However, the main goal of this thesis does not lie in GIS based archaeological prediction, and so issues of predictive modelling shall not be addressed here in detail; although prospects of prediction will be assessed later.

Visibility analyses were present in archaeological thought before advent of GIS. The issues of (inter-)visibility of sites and landscape features were discussed since at least 70' and 80'[178]; nevertheless visual impression of certain sites (e.g. Masada) was talked about much earlier. For analysis of military sites and fortifications it was used in study of wall circuit of ancient Mantineia in central Greece (TOPOUZI *et al.* 2000). Similar approach was employed in study of Hellenistic defenses of city Sagalassos in Asia Minor (LOOTS *et al.* 1999). However we must mention work done by Wooliscroft on Hadrian's Wall and Roman limes in Germany

[177] GIS Dictionary, term "spatial analysis".
http://support.esri.com/en/knowledgebase/GISDictionary/term/spatial%20analysis; retrived March 25, 2015.
[178] For overview see WHEATLEY 2004.

(WOOLISCROFT 2000); Fossey's examination of defense network systems in central Greece of Classical period (FOSSEY 1992); and that of Parker on Late Roman sites in Jordan (PARKER 1987, 165-181). Despite not using GIS tools in their work, their contribution to visibility studies and functioning of military sites is inspirational in both methodology and theory.

Least-cost path and other surface/movement analyses are also rooted in archaeological thought, at least since promulgation of the site-catchment concept. However, modelling of movement of ancient populations through landscape has received more criticism and faces more serious methodological and interpretative problems than visibility studies. Secondly, since algorithms used in modelling cost-surfaces and cost-paths varies across GIS toolkits, results thus obtained may vary accordingly. Several recent publications concentrate on this topic such as CONOLLY AND LAKE (2006, 214-225; 252-6) for overview of methods and their limitations; GIETL, DONEUS AND FERA (2008) for comparison of principal GIS toolkits; BRANTING (2012) for methodological obstacles and KANTNER (2012) for algorithm problematics. In the Classical archaeology, cost-surface and paths analysis were used e.g. in reconstruction of ancient road system in pre-Roman and Roman region of Sangro valley in central Italy (BELL, WILSON AND WICKHAM 2002).

### 4.2 Goals, methodology, data

We shall reiterate the goals of intended inquiry into the fortifications and settlements relationship in the area, since it is core problematic of this thesis.

Principal goal is to explore spatial relationship between military sites themselves, and between them and settlements and road system. We principally ask these questions:

1. Inter-visibility of military sites – did there existed a system of visually connected military sites able to communicate among themselves? Can we postulate existence of a communication system?
2. Visual control of their environment – what area did they can see? Did it also include settlements and roads?
3. Positioning in relation to settlements and road system – were they located close to the settlements/roads or is there discernible any other pattern (hilltops/slopes/flat terrain etc.)?

The results of these analyses combined should help us to interpret the function of the military sites in the region. The methods used for running the analyses will be GIS-based toolkits:

- Viewshed for visibility analysis

- Least-cost path for reconstruction of road system
- Analytical tools for proximity, distance etc.

Viewshed analysis will be processed using ArcGIS 10.1; for least-cost path analysis QGIS 2.2.0 will be utilized.

*4.2.1 Viewshed*

In following sections we shall evaluate basic principles and limitations of the primary GIS tools that will be used to run spatial analysis of the sites and present dataset that will be employed.

Viewshed computes area visible from given feature layer, representing either point/points or polygons. As a base map, raster dataset representing heights is used (digital elevation model – DEM). In this raster dataset, each cell of the raster represents smallest spatial unit with specific height. A feature from feature layer is "clipped" to given cell according to its spatial coordinates, so it gives feature also spatial information in the Z-axis. Algorithm then computes if neighboring cell stands in the line of sight of the feature. Or in other words: "The visibility of each cell center is determined by comparing the altitude angle to the cell center with the altitude angle to the local horizon. The local horizon is computed by considering the intervening terrain between the point of observation and the current cell center. If the point lies above the local horizon, it is considered visible."[179] The output map is binary representing visibility/non-visibility. For results to be more refined an "offset" can be added. There are two kinds of offsets – OFFSETA specifies height of observer above surface and OFFSETB specifies height of observed feature above the surface.

The limitations of this method lie in the precision of the DEM in terms of resolution (size of single cell can vary from 90×90 m in free access datasets to as low as 5×5 m in professional models) and height accuracy, which can vary between 2-5 m in more precise datasets. Another problem stems from (im)precise position of the feature in the map.

Another important question is what was effective distance over which could have signalization work? We shall make small excursus into military signaling in antiquity.

Signals used for military signaling are known e.g. from their description of the events of Persian war by Herodotus, who mentions "beacons" several times.[180] Fire signals are again

[179] ArcGIS Help 10.1 - Viewshed (3D Analyst); retrieved from http://resources.arcgis.com/en/help/main/10.1/ (5th April 2015).
[180] Histories 7.183; 9.3.

mentioned by Thucydides for Peloponnesian War.[181] Diodorus mentions them in connection of Antigonus Monophtalmus' signaling system in Asia Minor;[182] in another he goes on to say that similar system was used by Nabataeans.[183] Polybius describes elaborate system for transferring complex messages, a semaphore of sort.[184] Perhaps similar system was mentioned by Suetonius in connection with Tiberius abode at Capri.[185] Fire and smoke signals are mentioned twice in Caesar's writings.[186] First century Roman writer Frontinus clearly distinguishes fire signals for use during night and smoke signals to be used during daylight.[187] Late Roman military theorist Vegetius writes about fire and smoke signals as well.[188] Moreover, at least two artistic depiction of (presumably) signaling system came down to us on the columns of Trajan and Marcus Aurelius, which depicts logs and hays of straw intended for burning. This interpretation however, has its limitation and is not universally accepted (DONALDSON 1988, 355; SOUTHERN 1990; WOOLISCROFT 2000, 26). As for the effective distance, experiment conducted by Parker's expedition in Central Jordan in 1982 is instructive. In total 14 Late Roman/Byzantine sites were included in the experiment and members of the team managed to transfer messages over distances of 4-8 km in case of smoke signal and up to 20 km for fire signals at night. However it is important to note that experiment was conducted from ground surface not from original height of the towers/forts, therefore results show lower estimates for visibility (PARKER 1987, 165-181).

Donaldson (1988, 351-2), on the other hand, on example from Hadrian's Wall argued for much lower operating range of only ca. 1500 meters due to differing weather conditions, ruggedness of terrain, forestation etc. Another objection concentrates on manpower needed to maintain such a system and so he opts only for limited signaling system on tactical level (DONALDSON 1988, 350-1; 356). Concerning his arguments about effective range, we must keep in mind, that northern Negev is semi-arid region with no continuous forestation and clear, dry air for most of the year and thus these conditions did not impede functionality of signalization. We shall count with maximum effective visibility of 10 km, adequate for transmission of messages during daylight and night.

[181] The Peloponnesian War 2.94; 4.42 etc.
[182] Diodorus 19.57.5.
[183] Diodorus 19.97.
[184] Polybius 10.42-47.
[185] Tiberius 65.
[186] Caesar, BG 2.33 for fire signals; Caesar, BC 3.65 for smoke signals.
[187] Strategemata 2.5.16.
[188] Epitoma Rei Militaris 3.5.

As a base map for this analysis a DEM with a resolution of 34.5 m, projected onto GSC 1980 spheroid will be used.[189]

Feature layer will consist of the military and civilian sites represented by points, indicating either highest elevation on the site or position of tower. Geographical coordinates were taken from Nahal Yattir survey, manual GPS measurements made by author where it was possible and GoogleEarth program; coordinates were cross-checked against each other and adjusted accordingly. Output coordinates are in both WGS84 and ITM format. OFFSETA for military sites will be 5 m for structures without tower, 10 m for towers and 8 m for Horvat Uza, where original height of wall can be determined. OFFSETB will be set at 5 m.

Visibility map will be made for each military site with sites (both military and civilian) in 10 km buffer zone around the original site.

*4.2.2 Least-cost path*

Least-cost path is a chain of analyses that determines the easiest route across heterogeneous terrain represented as a cost-surface model, indicating difficulty of movement across the terrain. Movement is influenced by these factors (after DANIELISOVÁ 2008, 111):

1. Existing communications
2. Impassable water bodies (rivers, lakes)
3. Passages over water bodies
4. Vegetation
5. Slope aspect of terrain
6. Impassable terrain (rocks, swamps etc.)

For northern Negev region situation is more simple – landscape is traversed by few wadis; but they are fed only occasionally during rainy season in winter. Vegetation is sparse and continuous forestation was never the case for the region. As for impassable terrain, only slopes too steep to climb can be taken as such. Our main concern would then be slope as principal feature influencing travel.

The evidence for Roman road system in the region is weak. Only in course of Malhata survey a 10-m-long stretch of paved Roman road was detected (see section 2.2.4); and Ma'ale Dragot road (north-south route connecting Malhata and Hebron) was identified as Roman albeit

[189] I would like to express my gratitute and thanks to prof. Yitzhaq Benenson from the Departement of Geography, Tel Aviv University for kindly supplying this DEM from GIS lab by the departement.

of later date (DORSEY 1991, 127; KLONER 1996; ROLL 2005, 751). Besides it is assumed that Romans used older routes still some time after incorporation of the province; and that massive road building was connected to major military campaigns of the two revolts (ROLL 1974, 503-7). What were pre-Roman roads in the region? As was stated earlier in the introduction, there runs major east-west route from Dead Sea through Malhata and Beersheva to the sea. Other major route is one connecting Beersheva and Hebron, going along Nahal Hevron via Khirbet Tatrit (DORSEY 1991, 119-120); next was connection (Aro'er –) Malhata – Arad – Hebron bypassing Ma'ale Dragot and going along Tel Qerayot (DORSEY 1991, 125-6). One plausible route connected Aroer with Beersheva – Hebron route through Masos and Horvat Hura, joining it either at Tel Shoqet or Khirbet Tatrit (DORSEY 1991, 127). The analyses will help us to establish approximate course of these principal routes.

Important concept in least-cost analyses is isotropic and anisotropic cost. Isotropic cost is cost which is independent of direction of movement (crossing the river, forest etc.). Anisotropic cost on the other hand counts cost also according to direction of movement (uphill/downhill etc.) from given start point to final destination. These costs are often described either as "friction" (obstacle) or "force" (aid of movement).

GRASS 6.4.3 which will be used allows computing of both costs (in r.cost and r.walk modules). A base for computing cost surface will be again 34.5 m resolution DEM reclassified according to slope aspect (friction surface). Anisotropic cost for starting points will be then computed using r.walk; resulting raster map is base for computing least-cost path between two points using r.cost. GRASS uses Aitken and Langmuir formula for establishing movement cost (GIETL, DONEUS AND FERA 2008) and enables user-defined modification of parameters.

There are of course several caveats concerning path modelling. First of all, all variables put into the model are necessarily arbitrary – classifying of friction surface, movement formulas etc. and sometimes may fail to quantify all variables or to quantify them in the most realistic manner. Yet, even if we manage to express all variables we still assume that humans in the past would took most optimal way. As a "technical" exact discipline it does not take into account social and/or religious realities of the day. From technical point of view problem lies also in algorithms used to evaluate cost surfaces – there are several of them each with its own pros and cons (BRANTING 2012, 213-216; KANTNER 2012). In order to minimize these faults and to better

understand the results, they shall be cross-checked with old British Mandate 1:100 000 topographical maps[190], where tracks and unpaved roads used by Arab Bedouins are shown.

## 4.3 The results

In this part, results of the analyses shall be presented, first intervisibility of military sites then relation between settlements and military sites and in the end analyses concerning road network and spatial setting of sites in connection of these roads.

### *4.3.1 Intervisibility of military sites*

First map (Map 4) shows result of viewshed analysis for all Early Roman forts together, so called cumulative viewshed, with OFFSETB0 (m), i.e. it shows what *surface* is visible from the sites. This map offers a glimpse at pretty rugged terrain traversed by hills, wadi-valleys, depressions and elevations. The more hilly area between Nahal Hevron and Nahal Anim indeed sees less visibility for the sites with lots of gaps, but since most of the sites are located on ridges or hilltops they are visible among themselves (again stressing, that here we see *surface visibility*, not features at specific height like towers). However, this map does not provide us with most important knowledge – whether or not are neighboring sites intervisible, therefore we will evaluate each site independently.

Tel Arad (Map 5) offers good visibility around its surroundings apart from west, where an elevation rises. The site does not have any close neighbors; only Horvat Uza is in the 10 km range of maximum effective visibility and is visible. Malhata is also visible if we extend radius to 12 km.

Horvat Uza (Map 6) also commands its immediate vicinity as in case of Arad but it fails to see much of deep ravines extending to the east and south of the site. Arad is visible, but it is important to say that both sites are on verges of maximum 10 km range.

Malhata (Map 7) is low-lying site in flat terrain and so it does not see beyond elevations in few kms range, but still commands its surroundings. The only visible site from here (excluding Arad) is Tel Ira.

Tel Aroer (Map 8) is stuck in a pass between two ranges that reach to same or higher height than the site; therefore its viewshed covers mainly pass itself and neighboring hilltops.

[190] Available from GovMap http://www.govmap.gov.il/

Malhata is not visible due to elevation between them as well as Horvat Mizbeah to the west. Only Tel Ira is visible, again almost on the edge of effective range.

Horvat Mizbeah (Map 9) sees rather large parts of its environs and can communicate with Tel Ira. Sites to the north are again on the edge of visibility and probably only tower Nahal Molada could be seen.

Tel Ira (Map 10), as it follows from previous paragraphs is site visible for three neighboring sites on east and south, making kind of a "hub". To the north across Harei Ira the twin site of Nahal Molada and fort Harei Anim can be seen as well as far-off towers at Givat Meitar and Givat Mahat.

Beersheva (Map 11) with its position in relatively flat terrain commands large portions of its region. Nevertheless, only site within 10 km range is tower Nahal Yattir 4 almost on the edge of effective visibility and on top of it is not visible.

Horvat Salit (Map 12), sitting on a ridge above wadi of Nahal Yattir has good visibility of both wadi and neighboring terrain. From top of its tower, assuming to be 10 m high, it can communicate directly with all of its neighbors – Horvat Bikhra, Nahal Yattir site and Givat Meitar. Another three sites are visible beyond Nahal Yattir site – Nahal Soa, Nahal Molada and Harei Anim.

Tower at Givat Meitar (Map 13) provides good overview of its region in all directions and mainly to the west over valley of Nahal Hevron, albeit with some exceptions. It can see all sites within effective range but tower Nahal Yattir 4.

Nahal Yattir site (Map 14) offers rather good visibility considering very difficult terrain around. It can very well see long section of valley of Nahal Yattir. It can communicate with all sites within 10 km range, excluding only Tel Ira.

Looking at viewshed of Nahal Soa (Map 15) gives us rather mixed impression. The immediate vicinity of the site is covered but its closest neighbors – Harei Anim, Nahal Molada and Nahal Yattir 4 are not visible. There is connection to the sites in the north but large areas of land between them, including all of Nahal Yattir valley is not visible from the site.

Similar problems occur also with Harei Anim (Map 16). Viewshed comprises of relatively small area around the site and to south-east of the site (but tower at Nahal Molada is visible). However, other sites apart of Nahal Yattir 4 are visible, including Tel Ira.

Tower at Givat Mahat (Map 17), offers only limited overview of its surroundings, due to orientation of the slope where it stands. However Meitar to the north is visible together with Nahal Yattir site, Nahal Soa, Harei Anim and Nahal Molada.

Tower Nahal Yattir 4 (Map 18), siting on low mound above Nahal Yattir, covers perfectly this valley and can communicate with Nahal Yattir site and possibly with Horvat Bikhra as well. But very limited viewshed is probably caused by the quality of the DEM, positioning the site to lower level of the wadi than it is in reality.

Nahal Molada (Map 19), located just few hundred meters west from Harei Anim provides excellent view on south and south-west of the site (excluding valley of Nahal Anim), where even Tel Ira and Horvat Mizbeah is visible. Among other visible sites are Harei Anim and sites to the north apart from Nahal Soa and Nahal Yattir site, possibly also tower Nahal Yattir 4 was visible as well.

Finnaly, tower Horvat Bikhra (Map 20) has good view of its surroundings with apart from western site, this can be again ascribed to the quality of them, showing elevation immediately to the west of the tower and thus obliterating view. Otherwise, all sites except from Tel Ira and Givat Mahat are visible.

To sum it up, five sites (Arad, Uza, Malhata, Aroer, Nahal Yattir 4) can see only one neighboring site; one site (Beersheva) cannot see its neighbor (which is moreover on the edge of visibility range). Most of the sites can communicate with more than two neighboring sites, some, theoretically with almost every site within given visibility range. Destruction/abandonment of Aroer and Ira during Great Revolt did not affect compact system of sites in the north-western part of the study area. On the other hand, it leaves Malhata with only theoretical possibility to be connected with Arad and Mizbeah with one connection. Nahal Soa is only case where visibility is oriented in only one direction and ignores immediate neighbors in other direction.

### *4.3.2 Forts-settlements spatial relation*

Concerning settlements we can point out these things:

1. Their very close proximity to the fortified sites. All but one (Nahal Beersheva) are located within 5 km distance from nearest fort (Map 21). Moreover, all but two (Nahal Beersheva and Khirbet Tatrit) are located within distance of 3 km from closest fort (Map 22).

2. In the period after the Great Revolt with destruction/abandonment of Aroer and Ira, only one more settlement becomes remote – Tel Masos, which is more than 5 km off from nearest fort (Map 23; Map 24).
3. Two settlements are located directly next to fortified site (Aroer, Uza). We should however, try not to infer far-reaching conclusions about this fact (see below in discussion).
4. When considering pre-revolt period (Map 25), only two settlements (Nahal Anim and Nahal Anim 2) are not visible from any fort, it is mainly due to their location on bottom of valley of Nahal Anim; three settlements (Khirbet Amra, Nahal Beersheva and Uza) are visible from at least one site; rest is visible from two or more sites (note that while Aroer is visible also from Ira, it should rather not be counted, since effectively it is part of military site of Aroer).
5. In post-revolt period, situation is changed only slightly; settlements along Nahal Anim are still invisible and as well as three settlements visible from only one site remained unchanged. Only Tel Masos now become visible only from one site (Map 26).

*4.3.3 Road system*

On Map 27 we can see routes modeled in GRASS showing links in principal east-west and north-south direction, as we spoke about them in part 4.2.2. The starting point for these routes was set at Malhata (with exception of Aroer-Beersheva and Arad-Uza), since it is assumed, that due to its central position in the region, all travelers had to pass through it. The patterns are clearly visible – routes to Beersheva, Arad and Uza follow direction of wadis for most of their part. Very interesting is situation on Malhata-Aroer route, for which we lack parallels in older cartographic documents (for comparison with 1940 Mandate maps see further). Green dot indicates site of surveyed stretch of Roman road and, as we can see, modeled "ideal" route runs close-by only ca. 300 m to the west of it. It is important to stress that in rather flat, slightly rolling landscapes least-cost paths analysis tends to "straighten" the route; so the fact that diversion from actual remains is this small indicates rather good precision of analysis.

Note also connection Malhata-Salit and Malhata-Tatrit; both links share great deal of their routes. It is again due to terrain, in the hilly region roads tend to go through passes and/or ridges. In this case we can assume, that this route was principal connection between central and eastern part of Beersheva valley with the region to its north-west. Moreover, this routes passes through

settlements Nahal Yeshua 2 and Harei Anim; then it passes close to fort of Nahal Yattir site, where it descends to valley of Nahal Yattir and continues along it till ascending towards Salit and Tatrit.

For comparison between links going through Malhata and direct connections between outlying sites (Arad-Aroer and Uza-Beersheva) see Map 28. We can see that while both routes shares long stretches of routes starting from Malhata, it diverges in the central part of valley due to reasons mentioned above and crossing of both routes (Arad-Aroer and Uza-Beersheva) avoids Malhata at big distance. On top of it the modeled route between Arad and Aroer also avoids the surveyed stretch of Roman road at greater distance than Malhata-Aroer link (0.3 km vs. 0.7 km). Therefore, we can argue that model linking sites via Malhata is more precise than direct link of outlying sites.

As for another lateral route Aroer-Masos-Hura-Tatrit (see 4.2.2.) we can have a look at Map 29. There are modeled routes shown on British Mandate 1940 map showing tracks and routes in use by local Bedouin inhabitants. The link Aroer-Tatrit was modeled at one step directly and afterwards with link through Tel Masos for following reason – Dorsey (1991) was concerned mainly with Iron Age in his book on ancient roads at which time Tel Masos was important fort and city. However, as we showed in chapter 3.1.11, Early Roman settlement at Tel Masos was most probably short-lived, negligible and existed only after Great Revolt. Therefore, this analysis aimed to explore what would the route look like in case we do not count with Masos as important settlement.

From map we can see that the two alternate routes do not diverge greatly. Biggest diversion of their course is in the first part of the route towards crossing of Nahal Beersheva; while one route logically goes to Masos, the other goes ca. 3 km to the west approximately to crossing indicated on the old (and new) map. Then, both routes go more or less parallel 1-1.5 km from each other. The route from Masos goes between tower at Nahal Yattir 4 and settlement Nahal Soa and afterwards it passes settlements Nahal Hur and Horvat Hur 2 from the east and very closely towers Givat Mahat and Givat Meitar from the west. Second route is approaching Horvat Yittan and passes previously mentioned sites from west; it basically goes along foot of the hills to the east.

If we look at the topographical map (Map 30), we notice that till ca. Horvat Yittan/Nahal Yattir 4 both routes follow tracks indicated on the map; at this point the tracks bend to the west to reach Nahal Hevron valley. Only one track goes from crossing of Nahal Yattir more towards

north and bypasses Nahal Hur and Horvat Hur 2 (similar to Masos route) and then going in north-western direction reaches Nahal Hevron. Since both routes have similar course, do not greatly diverges from each other, connect settlements and forts/towers, have their parallels in bedouin tracks, and even are almost identical in length (24 km for Masos route vs. 26 km for direct) we cannot discard any of them, so we keep them as two alternative routes from Aroer to Tatrit.

Concerning other routes, we can see correlation between modeled routes and some of the tracks on topographical map (Map 30). Malhata-Arad route is almost identical to track going along Nahal Beersheva; Malhata-Uza again follows course of Nahal Malhata till it reaches hill on which Uza stands. Difference can be seen on Malhata-Beersheva route, where Bedouin track goes along left bank of the wadi, while modeled route goes on the right bank. However, Bedouin track crosses wadi at same point as Aroer-Tatrit direct route and continues on the right bank till it reaches Beersheva. We can assume both tracks (Malhata-Beersheva and Aroer-Beersheva) joined at this point. One possible route for Aroer-Beersheva road can lead along foot of hills to the west of Aroer under Horvat Mizbeah. Even Malhata-Salit route has its parallel track, albeit it diverges more to the south. Nevertheless, I would argue for this route going along Nahal Yattir valley to the north not directly to Tatrit, as Tatrit would be connected to Malhata via different route (see further). Only Malhata-Aroer and Arad-Uza routes do not have any corresponding analogy.

On Map 31 also possible routes are indicated, we already mentioned possible alternative to Aroer-Beersheva. These routes were not modeled and their course was delineated only from old topographical map. Least-cost paths analysis can only model route between point A and B; this is no problem if we know link between two points on the route. However at some case we cannot be either sure or there is no need in modelling paths on short stretches of only few km. Therefore, in my opinion towers Givat Meitar and Horvat Bikhra stood on east-west route crossing Malhata-Salit route around Nahal Yattir site, for which there is analogy; it is possible that it led to Tatrit as well. Next, another lateral road traversing region from south-east to north-west probably connected Malhata with Ira, settlements in Nahal Anim valley and Harei Anim fort, then it crossed Nahal Yattir close to tower Nahal Yattir 4 and continued towards Nahal Hevron. Another possible routes led from Beersheva along Nahal Hevron to Tatrit and from there further north; from Arad northwards and from Uza towards Aravah valley.

### 4.4 Discussion

What conclusion can we draw from these results? In the first place we should review what analyses showed us:

1. Intervisibility of fortified sites is not universal. In more densely populated areas with higher concentration of military sites such as north-western part of the study area – Nahal Yattir region, these fortifications show high degree of intervisiblity, when often not only immediate neighbors but even more remote sites are visible. On the other hand, in southern and eastern area – the semi-desert region with little sedentary population – the sites are located at longer distances of each other on the edges of effective visibility range, sometimes beyond it. "Strange" case is presented by Tel Ira, which is visible from three sites, but these sites are not visible between themselves. Horvat Mizbeah presents another extreme – it is basically "lone tower" with connection to Ira and possibly to the north, but on the verge of effective range; that cannot see its neighbor (Aroer) and does not have any other tower in its vicinity.
2. Concerning settlements, it was demonstrated their proximity to fortified sites (with few exceptions). Most of them are located within 3-km radius from forts, which is approximately one-hour walking distance, often even less. The location of some settlements (Aroer, Uza)[191] in direct relation to forts occurs only in semi-desert region of the study area. Moreover, in both pre-Revolt and post-Revolt periods only small fraction of settlements (two in both periods) was not visible from one or more forts. Usually, one settlement could have been observed from more than one fort and settlements observable from all neighboring forts are no exception. Invisibility of settlements is given primarily due to their position on bottom of valley or, in case of Masos by abandonment of close fortified site; but still two out of three of them were located on roads traversing the region.
3. Road-modeling using least-cost path analysis in GIS brought rather fruitful results. Cross-checking the outputs with old topographical maps which shows old bedouin tracks before massive construction of asphalt roads and other huge landscape-changing projects, obliterating older patterns, such as 47 $km^2$ big Nevatim Airbase proved successful. In some cases we clarified route of principal roads running east-west and north-south (Uza-

[191] We may perhaps add also compound at the well on Tel Arad, see chapter 2.2.1.

Malhata-Beersheva; Arad-Malhata-Aroer). In other cases the analysis provided us with ground for postulating several lateral routes in north-south and south east-north west direction, previously not attested. What is equally important and to some extent it further demonstrates accuracy of least-cost path analysis is fact that most of the sites, both settlements and forts, align with proposed routes. On the other hand, there are sites where this correlation is only presumptive (road connecting Meitar with Bikhra) and sites that align only loosely (tower at Mizbeah, fort Nahal Soa and settlement at Amra). We shall take a look at Map 32, which shows us visibility of roads from forts. As we can see, patterns are similar to that observed in paragraph 1) (especially in post-Revolt period) – in more densely populated areas the coverage is higher; in semi-desert region it is lower but forts still maintain rather good overview of at their surroundings at least.

From these findings I would argue for two zones of interaction where in each respective zone military applied different approach to relation between military sites and settlements; to importance of military signalization and to differing economic realities of each region.

First zone is north western region of the study area, inhabited by sedentary agricultural population in dispersed farmsteads and hamlets. Forts are located on prominent places close to the settlements and routes that go through region. Moreover, apart from their proximity to civilian population and roads, they have visual contact with these settlements and roads and also among themselves. We may also note one important thing – the forts are not oriented outwards towards an outer enemy; they do not comprise of "defensive line" or another distinguishable linear arrangement. Therefore in light of these facts, I would argue for following function of the fortified, military sites – their primary goal was control of population, control and regulation of traffic on the roads and administration of the region, simply "policing" the population and the region. The intervisibility of the sites would not serve strategic needs, by that we shall mean border control, warning system in case of enemy incursion into the hinterland and interception[192]; rather it would serve communication between sites in low-threat region on tactical level, with simple messages transmitted. When we look at the map of sites we may notice two forts located unnecessarily close together – Nahal Soa and Harei Anim. While Harei Anim and tower at Nahal Molada can cooperate together and proximity of the tower to the fort gives an impression that this

[192] For limited "strategic" signalling see DONALDSON 1988, 350-1; 356.

was the case; fort at Nahal Soa is visually separated from Anim and also its viewshed is very low, albeit covering other forts in vicinity. Nevertheless, I would argue for removing Nahal Soa from the list of forts and count it either among settlements or attribute it to Byzantine period.

In Roman provincial system, where governor was intermediary between emperor, local autonomy and civilian population, the governor was responsible for maintaining order in the province and for this purpose he was equipped with "task force" consisting of civilian and military officials – quaestors, *beneficiarii*, *legati*, *officia* etc. – and army (FUHRMANN 2012, 171-2, 186; NELIS-CLÉMENT 2000, 59-61; 69-71). Army officers were usually dispatched for administration (of both administrative units and imperial estates), supplying the army (*frumentationes*), executions, escort (*speculatores*), tax collection and other (FUHRMANN 2012, 190-195). Road-building was organized by military as well and road system in Judaea was probably developed to serve military needs (FUHRMANN 2012, 195; ISAAC 2000, 111). Army usually served as security forces in the cities[193] and from 2nd c. CE onwards were often informed about military patrols in the countryside from rabbinical sources (ISAAC 1991; 1998, 115-118; NELIS-CLÉMENT 2000, 73-5). Strong correlation between road system, military and civilian sites was already observed (ISAAC 2000, 112-113) as well as connection between road patrolling and pilgrimage routes (FISCHER *et al.* 2012, 36; 281-9); this and aforementioned rabbinical sources leads to role of military in countryside. Mainly from late 2nd and 3rd c. CE we are informed about *beneficiarii consulares*, who were in charge of assigned district to regulate traffic, collect tolls and taxes. They often did not have only one headquarters and travelled around (FUHRMANN 2012, 204-6). Similar function were performed by *stationarii*, who were placed on detached stations (hence the name) and controlled traffic, nevertheless their operational scope was wider (FUHRMANN 2012, 208-212). *Stationarii* are attested in ostraca found in the Eastern desert of Egypt dated to Trajanic period; their stations were called *praesidia* and those who maintained them were sometimes called *curatores* (MAXFIELD 2005). While *stationarii* were ordinary soldiers, *regionarii* were detached centurions who often exercised control over *stationarii* and could held some judicial authority (FUHRMANN 2012, 222-3). Some allusion to this "micro-level" of province administration is possibly given by Josephus[194] referring to "…decurions into the villages, and centurions into the cities…" Apart from Eastern desert in Egypt, these *praesidia* or

[193] See e.g. BJ 2.224.7; AJ 20.105-112 and others.
[194] BJ 4.442.

stations of *beneficiarii* are known from Pliny the Younger[195] and from Sirmium region in Thracia (MIRKOVIĆ 1991). From Thracia we have epigraphical evidence for *praesidia, burgi* and *phruria* from reign of Antoninus Pius[196]. Therefore among installations used by *stationarii* and other military personnel we may count also block-houses, towers and similar "strong places" located close to roads. So far, all evidence and analogies from other parts of Roman Empire points to conclusion, that forts we encounter in this first zone of interaction were meant to control civilian population and road-traffic and thus they are equal to "*praesidia, burgi and phruria*" from Thracian inscription. What is appalling is concentration of these military/administrative sites; then we must look at worsening security situation during direct Roman rule in Judaean province which probably facilitated need for strong presence of military in countryside. After the Revolt the aim was similar – to control recently subjugated and potentially rebellious population (ISAAC 2000, 112-113). Number of sites is on the one hand high; on the other hand, they are rather small and housed probably no more than 50 soldiers, usually less (BREEZE 1977; GICHON 1989). Despite low numbers of soldiers in one site (20-50), the total number of soldiers for four principal sites in the region – Salit, Nahal Yattir, Harei Anim and Ira – can amount up to 80-200 plus small detachment at towers. Besides, the high density of military sites, the presence of military personnel, their near total control of civilian settlements and probably total control of road traffic show the "landscape of dominance" created by Roman army in once unstable and then conquered region.

The second zone is located to the south and east of the first region, more or less beyond 200-mm isohyet dividing agricultural lands and semi-desert areas with dispersed population of herders. Military sites in this region follow different patterns; they are still located on prominent places probably not so much for the need of signalization, since they are located far from each other, but rather for defensive purposes generally; they were not meant as military bases for interception of enemy. We may assume that their location closer to nomad tribes in the desert could be reason to increased security concerns against bandits. Another shared feature is abundance of water sources in their vicinity, be it wells or cisterns for rainwater. Moreover, they are located on primary routes crossing the region from east to west and north to south. Their primary goal was not control of population but policing traffic on roads and serving as road-stations or "caravanserais". I will explain what leads me to this conclusion.

[195] Pliny, Ep. 10.77-8.
[196] ILBulg 211.

Yifat Thareani-Sussely published an article (2007) focusing on definition of features common to road-stations/caravanserais that can be identified in archaeological record. Among these we can count (THAREANI-SUSSELY 2007, 128):

1. Location on trade route
2. Separation from local population
3. Sleeping quarters
4. Food preparation and consummation area

Secondary it is:

1. Animal pens (for pack animals)
2. Fortifications
3. Trade center
4. Water supply system

From these, food preparation areas are poorly documented, sometimes even lacking; the nature of "trade center" could be hardly proved. Otherwise, principal sites – Arad, Uza, Malhata, Beersheva and to some extent also Aroer (although its role was probably slightly different) share most of these features.

Although nature of remains at Beersheva and Arad is doubtful in the period before Great Revolt and immediately after (see sections 2.2.1 and 2.2.3); their second phase starting roughly in Trajanic period shows features contributed to road-stations/caravanserais (location on trade route, sleeping quarters, animal pens, fortification, water supply system). State of Roman period structures on Tel Malhata is also unclear and its attribution to system of road-stations is mainly due to its exclusive position on crossroad of main routes in the region. Uza is probably most clear example of the road-station where practically all features are represented (including food preparation and consummation areas). Aroer is different case, as no structure similar to previous ones was identified; it is clearly a fortified compound serving as a base for soldiers policing the region. Its destruction, abandonment and no activity in later periods further attest it was not important road-station in local trade. The only site that does not correspond to this pattern is "lone" tower at Horvat Mizbeah. While it is aligned to some extent with one possible route between Aroer and Beersheva it does not really serve any other function given its limited line-of-sight. Therefore, in my opinion, the tower was wrongly attributed to Early Roman period by Gichon and in fact it is Byzantine structure as were "toweres" at Givat Hablanim and Givat Tzan.

This situation is somewhat analogous to the system of provincial administration mentioned earlier. Even these sites were probably seats of *beneficiarii*, or *praeses* in general, controlling traffic, collecting duties, tolls and taxes. Similar arrangement – road-stations with detached *stationarii*/*beneficiarii* and *hydreumata* (water installations) for traveler's needs are well recorded in the Eastern desert of Egypt on roads connecting ports of Berenike and Myos Hormos and mines in Mons Porphyrites and Mons Claudianus with Nile valley (SIDEBOTHAM 1991; 1997). We know a lot regarding Eastern desert thanks to ostraca and papyri recorded in course of excavations of these sites. Nevertheless, similar arrangement could have been functional also in southern part of Negev (see section 2.6) and Jordan. A complex of two buildings at Khirbet el-Khalde, comprising of "caravanserai" measuring 32×22 m with central courtyard and "fortress" with dimensions of 49.5×32 m, central courtyard and four corner towers, was identified as *Praesidio* from Tabula Peutingeriana, attesting to its role on Via Traiana Nova (KENNEDY 2004, 199-201; ISAAC 2000, 174-5).

## 5 Conclusion

In the first chapter we reviewed historical development of Judaea in Early Roman period with emphasis on the security threats faced by government at that time. It is remarkable that for our region of interest – southern fringes of ancient Idumaea where it meets desert controlled by Nabataean kingdom – there is very little direct evidence, even from epigraphy; only few remarks came down to us in ancient authors. Even though, we are able to infer important security issues that were common to whole of the country. These were mainly threat of banditry, endemic to the whole region before and after Great Jewish Revolt (ISAAC 1998, 132-5). Herodian rulers fought with Nabataeans on several occasions, but usually in completely different region and due to various reasons. Negev was important trade corridor connecting Arabia with Mediterranean and both kingdoms shared common economical interest, we can rather imagine them cooperating then competing (yet we lack evidence for that as well). Naturally, after Roman annexation of Judaea there was no place for conflict between Rome and its allied Nabatean kingdom.

Chapters two and three which were focusing on archaeological evidence for Early Roman fortifications and settlements in the region both show problems that face everybody dealing with Early Roman period in the region – lack of stratigraphic excavations that would help clarify chronology of the sites in questions. Certainly, important sites such as Malhata, Uza, Arad, Aroer, Beersheva, Nahal Yattir site and Salit were indeed excavated but final publications with architecture, stratigraphy and material published are so far available only for Aroer and Uza. Therefore, for other excavated sites we have only rough picture of their various building phases. Nevertheless, even from scanty evidence we have there can be some conclusions made e.g. regarding structures of phase 2 at Beersheva and Arad being contemporaneous and originating at the turn of $1^{st}/2^{nd}$ c. CE. For other sites we rely on surveys conducted in the past, which have their limitations as well.

As we have seen, Gichon's identification of Early Roman fortifications was often wrong (SHATZMAN 1983; BAUMGARTEN 2014, sites 7 and 12) and we were able to question one more site in this study (Horvat Mizbeah). Guvrin's survey of Nahal Yattir often lacks precise identification of collected pottery, thus "Roman" for example can mean Early and Middle Roman or even Late Roman material. Some corrections could be made thanks to work of Jodi Magness, who re-examined material from Nahal Yattir survey and was able to determine exact period to which it belongs; often completely changing date for the site. Yet, she focused on sites with Late

Roman, Byzantine and Early Arab phase, so it is possible that some sites from the survey were not re-evaluated. Apart from these confusions, results of surveys are always imprecise in establishing a connection between material collected on surface and visible structures as well as chronology of the site itself. These limitations should be kept in mind when drawing conclusions from our imperfect evidence.

The GIS analyses, to which chapter four was devoted, also have their own limitations. Crucial point is precision of the DEM in both resolution and height accuracy. Our model with 34.5 m resolution provides good base for such large-scale modelling in our region of interest. Even the precision of input data – location of the sites, taken from GoogleEarth and corrected with aid of topographical maps seems accurate.

Results of viewshed analysis show certain degree of ambiguity. Nevertheless intervisibility of the sites in the Nahal Yattir region and coverage of neighboring terrain; which is difficult to control due to its roughness, together with rather small distances between neighboring sites (usually not exceeding 3.5 km) are evidence for possible use of military signaling on tactical level between single forts. Note also prominent position of Nahal Yattir site – it lies on high hill overlooking its surroundings and it has visual connection to almost every fort and tower in the region; perhaps we could imagine Nahal Yattir fort to be in some way central to military control and administration of the region.

Important is the fact of visual control exercised by forts over most of the settlements. To this we can add following:

1. Two sites (Khirbet Tatrit and Khirbet Amra) are located outside of surveyed regions; therefore we are less informed about their surroundings and potential military sites in their neighborhood. Simply, they could have been controlled from another still unknown site.
2. Case of "invisible" sites in Nahal Anim valley is similar – in neighboring hills of Har Briah a fort is located (GUVRIN 1985, 39) that perhaps could have seen these sites and moreover even could have been aligned to the modelled route from Malhata bound north west. Yet, this survey (Horvat Kasif) has not been published in full, so its results cannot be incorporated into this thesis.

Sites in the region to the east and south of the Nahal Yattir do not show this correlation and therefore their purpose must have been totally different.

Modelling of routes using GIS tools and their cross-checking with old topographical maps, where old tracks (now often obliterated) can be traced, proved fruitful. We were able to trace principal routes in the region and so we can observe relation of civilian and military sites to the road system. GIS analyses are given great credit, since most of the sites are aligned to modelled routes and routes themselves well adjust to some of the old tracks. As can be seen on the maps, military sites are usually dispersed along these roads and moreover these routes are usually also visually controlled by military sites.

From all this we may formulate theory concerning function of these military installations. The first zone of interaction between military and civilians was located in north western part of region of interest, still within 200-mm isohyet where dry agriculture is possible. Sedentary population was subject to visual (and perhaps even physical) control of the military; forts were used as *praesidia* from which the region was administered by official dispatched by governor; roads and traffic were secured by patrols. We may only repeat what was said in previous chapter about "landscape of domination" in land infested with banditry and rebellious, albeit quelled after the Great Revolt, population.

The second zone was located on the fringes of desert with few, if any, nomadic herders. Importance of this zone lies in its location on important travel corridor connecting Arabia and Jordan valley with its precious commodities like myrrh and balsam to Mediterranean ports. These forts primarily served as road-stations for caravans, bases of military personnel for maintaining the roads, traffic control, patrolling, and tax and toll collection. Their importance is economic-commercial not military.

Either way, we must dismiss earlier proposals for existence of "defense-in-depth" in Early Roman period (after the Great Revolt) in this region or existence of defined frontier or "limes" in the Roman tradition (GICHON 1967; 1971; 1991; LUTTWAK 1976, 55-78). These proposals were criticized even earlier (SHATZMAN 1983; ISAAC 1989; 2000, 170-1; 373-416) and it is part of wider debate whether or not existed "grand strategy" of Roman Empire that was employed on its frontiers. While some scholars still maintain the idea of "grand strategy" (e.g. FERRILL 1991) others usually dismiss idea of one "mastermind" strategy beyond frontier management and tend to interpret functioning of the frontiers with respect to local political, economic and social realities of each respective province (WHEELER 2007, 236-9 for overview of the debate; BREEZE 2011 for most recent scholarly opinion on Roman frontiers).

# Bibliography

## Primary sources


AJ = *Flavius Josephus, Antiquitates Judaicae*. Transl. by William Whiston. In: The Works of Flavius Josephus. Editor: John E. Beardsley, Buffalo. 1895.

*Bible*. Český ekumenický překlad, Praha. 1993.

BJ = *Flavius Josephus, De Bello Judaico*. Transl. by William Whiston. In: The Works of Flavius Josephus. Editor: John E. Beardsley, Buffalo. 1895.

Caesar, BC = *Gaius Iulius Caesar, De Bello Civili*. Transl. by M. Husová and V. Marek. In: Zápisky o válce občanské, alexandrijské, africké a hispánské, Praha. 2010.

Caesar, BG = *Gaius Iulius Caesar, De Bello Gallico*. Transl. by J. Kalivoda. In: Zápisky o válce galské, Praha. 2009.

CIL XVI = *Corpus Inscriptionum Latinarum Vol. XVI: Diplomata Militaria*. Editor: H. Nesselhauf, Berlin. 1936.

Dio, Cassius = *Historiae Romanae*. Transl. by Bill Thayer, [online], retrieved 1.1.2015 from: http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Cassius_Dio/home.html

Diodorus = *Diodorus Siculus, The Library of History*. Transl. by Bill Thayer, [online], retrieved 1.1.2015 from:
http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Diodorus_Siculus/home.html

Flavius Vegetius Renatus, *Epitoma Rei Militaris*. Transl. by V. Marek and J. Kalivoda. In: Antické válečné umění, Praha. 1977.

Herodotus, *Histories*. Transl. by J. Šonka. In: Hérodotos: Dějiny, Praha. 2004.

ILBulg. = *Inscriptiones Latinae in Bulgaria repertae*. Editor: Boris Gerov, Sofia. 1989.

Not. Dig. = *Notitia Dignitatum*. [online], retrieved 1.1.2015 from:
http://la.wikisource.org/wiki/Notitia_dignitatum

OGIS = *Orientis Graeci Inscriptiones Selectae*. Editor: W. Dittenberger, Lipsiae. 1903.

Philo = *Poliorcetica*. Transl. by A.W. Lawrence. In: Greek Aims in Fortification, Oxford. 1979.

Pliny, Ep. = *Gaius Plinius Caecilius Secundus, Epistulae*. [online], retrieved 1.1.2015 from:
http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.02.0139

Polybius = *Histories*. Transl. by P. Oliva. In: Polybios: Dějiny, Praha. 2008-2012.

Sextus Iulius Frontinus, *Strategemata*. Transl. by V. Marek and J. Kalivoda. In: Antické válečné umění, Praha. 1977.

Tiberius = *Suetonius, Tiberius*. Transl. by B. Ryba. In: Suetonius: Životopisy dvanácti císařů: spolu se zlomky jeho spisu O význačných literátech, Praha. 1998.

Thucydides, *The Peloponnesian War*. Transl. by V. Bahník. In: Thúkydidés: Dějiny peloponnéské války, Praha. 1977.

Vita = *Flavius Josephus, Josephi Vita*. Transl. by Růžena Dostálová and Jaroslav Havelka. In: O starobylosti židů: Můj život, Praha. 2006.

Vita Hadr. = *De Vita Hadriani*, [online], retrieved 1.1.2015 from:
http://www.thelatinlibrary.com/sha/hadr.shtml

Vitruvius = *Vitruvius, De Architectura*. Transl. by Alois Otoupalík. In: Vitruvius: Deset knih o architektuře, Praha. 1979.

## Secondary literature

Abel, F.-M. 1967: *Géographie de la Palestine*. Paris.

Aharoni, Y. 1971: Tel Beersheva. *Israel Exploration Journal* 21, 230-2.

- 1972: Tel Beersheva. *Israel Exploration Journal* 22, 169-171.

- 1973a: *Beer-Sheba I: Excavations at Tel Beer-Sheba, 1969-1971 Seasons*. Tel Aviv.

- 1973b: Tel Beersheva. *Israel Exploration Journal* 23, 254-6.

- 1974: Excavations at Tel Beer-Sheba, Preliminary report of the fourth season 1972. *Tel Aviv 1*, 34-42.

- 1975: Excavations at Tel Beer-Sheba, Preliminary report of the fifth and sixth season 1973-1974. *Tel Aviv 2*, 146-168.

- 1979: *The Land of the Bible: A Historical Geography*. Philadelphia.

- 1981: *Arad Inscriptions*. Jerusalem.

Aharoni, Y. et al. 1993: Arad. In: Stern, E. (ed.): *NEAEHL*. Jerusalem, 75-87.

Aharoni, Y. and Amiran, R. 1964: Excavations at Tel Arad: Preliminary Report on the First Season 1962. *Israel Exploration Journal* 14, 131-147.

Alt, A. 1930: Limes Palaestine. *Palästina Jahrbuch des Deutschen Evangelischen Instituts für Altertumswissenschaft des Heiligen Landes zu Jerusalem*, 43-82.

- 1931: Limes Palaestine. *Palästina Jahrbuch des Deutschen Evangelischen Instituts für Altertumswissenschaft des Heiligen Landes zu Jerusalem*, 78-84.

Alon, D. 1986: Horvat Salit (Kh. Salantah), *Excavations and surveys in Israel 5*, 94-6.

- 1987: The Refugium at Nahal Yattir Site. In: Kloner, A. and Teper, T. (eds.) *Cave Hiding Places in the Judaean Shephela*. Tel Aviv, 154-9. (In Hebrew)

Amiran, R and Ilan, O. 1982: Arad 1981, *Excavations and surveys in Israel 1*, 3-4.

- 1983: Arad 1983, *Excavations and surveys in Israel 2*, 4-5.

- 1985: Arad 1984/1985, *Excavations and surveys in Israel 4*, 6-7.

Applebaum, S. 1967: Agrarian Question and the Revolt of Bar Kochba. *Eretz-Israel 8*, 283-7. (in Hebrew)

Applebaum, S. and Gichon, M. eds. 1967: *Israel and Her Vicinity in the Roman and Byzantine Period : Notes offered to delegates*. Tel Aviv.

ArcGIS 10.1 Help. Retrieved from: http://resources.arcgis.com/en/help/main/10.1/

Arubas, B. and Goldfus, H. 2008: Masada: The Roman Siege Works In: Stern, E. (ed.): *NEAEHL*. Jerusalem, 1937-9.

Avi-Yonah, M. 1966: *The Holyland from Persian to the Arab Conquest (538 B.C. – 640 A.D.): A Historical Geography*. Michigan.

Barouch, Y. 1994: Fortresses in the Hebron Hills. In: Erlich, Z.H. and Eshel Y. (eds.): *Judaea and Samaria Research Studies: Proceedings of the 4th annual meeting – 1994*, 137-143. (in Hebrew)

- 1996: Road Stations in Judea during the Second Temple Period. In: Eshel, Y. (ed.): *Judaea and Samaria Research Studies: Proceedings of the 6th annual meeting – 1996*, 125-135. (in Hebrew)

- 2010: Rujm el-Hamiri: Fortified Site from the Second Temple Period in Southern Hebron Hills. In: Amiti, H. (ed.): *Margins and Desert in the Eretz Israel 2009-2010*. Susiya, 21-38. (in Hebrew)

Baumgarten, Y. 2014: *Map of Nahal Beqa'a (132)*. Retreived from: http://www.antiquities.org.il/survey/

Beit-Arieh, Y. 1993: Tel Malhata. In: Stern, E. (ed.): *NEAEHL*. Jerusalem, 934-7.

- 1998: The Excavations at Tel Malhata – An Interim Report. *Qadmoniot* 31, 30-39.

- 2003: *Map of Tel Malhata (144)*. Jerusalem.

- 2008: Tel Malhata. In: Stern, E. (ed.): *NEAEHL Supplementary volume*. Jerusalem, 1917-1918.

- 2011a: Excavations at Tel Malhata: An Interim Report. In: Finkelstein, I. (ed.) *Fire Signals of Lachish: Studies in the Archaeology and History of Israel in the Late Bronze Age, Iron Age, and Persian Period in Honor of David Ussishkin*, 17-32.

- 2011b: *Map of Horvat Uza (145)*. Retreived from: http://www.antiquities.org.il/survey/

Beit-Arieh, Y. et al. 1999: *Tel Ira: A Stronghold in the Biblical Negev*. Tel Aviv.

Beit-Arieh, Y. et al. 2007: *Horvat Uza and Horvat Radum: Two Fortresses in the Biblical Negev*. Tel Aviv.

Bell, T., Wilson, A. and Wickham, A. 2002: Tracking the Samnites: Landscape and Communications Routes in the Sangro Valley, Italy. *American Journal of Archaeology 106*, 169-186.

Bloom, J.J. 2010: *The Jewish Revolts against Rome, A.D. 66-135: A Military Analysis*. Jefferson and London.

Branting, S. 2012: Seven Solutions for Seven Problems with Least-Cost Pathways. In: White, D.A. and Surface-Evans, S.L. (eds.): *Least Cost Analysis of Social Landscapes*. Ann Arbor, 209-224.

Breeze, D.J. 1977: The Garrisoning of Roman Fortlets In*: Studien zu den Militärgrenzen Roms II: Vorträge des 10. Internationale Limeskongresses in den Germania Inferior*, 1-7.

- 2011: *The Frontiers of Imperial Rome*. Barnsley.

Cohen, G.M. 1972: The Hellenistic Military Colony: A Herodian Example. *Transactions and Proceedings of the American Philological Association 103*, 83-95.

Cohen, R. 1982: New Light on the Date of the Petra-Gaza Road. *Biblical Archaeologist* 45/4, 240-247.

- 1993: Hellenistic, Roman and Byzantine Sites in the Negev Hills. In: Stern, E. (ed.): *NEAEHL*. Jerusalem, 1135-1145.

Conolly, J. and Mark, L. 2006: *Geographical Information Systems in Archaeology*. Cambridge.

Cotton, H.M. 2000: The Legio VI Ferrata In: Le Bohec, Y. (ed.): *Les légions de Rome sous le Haut-Empire*, 351-7.

Cotton, H.M. and Geiger, J. 1989: *Masada II: The Latin and Greek Documents*. Jerusalem.

Dabrowa, E. 2000: Legio X Fretensis In: Le Bohec, Y. (ed.): *Les légions de Rome sous le Haut-Empire*, 317-325.

Danielisová, A. 2008: Praktické problémy spojené s modelováním pohybu pravěkou kulturní krajinou. In: Macháček, J. (ed.), Počítačová podpora v archeologii 2. Brno, Praha, Plzeň, 110-119. (in Czech)

Daris, S. 2000: Legio II Traiana Fortis In: Le Bohec, Y. (ed.): *Les légions de Rome sous le Haut-Empire*, 359-363.

Donaldson, G.H. 1988: Signaling Communications and the Roman Imperial Army. *Britannia 19*, 349-356.

Dorsey, D. 1991: *The Roads and Highways of Ancient Israel*. Baltimore and London.

Eldar, I. and Baumgarten, Y. 1993: Tel Malhata (Small). In: Stern, E. (ed.): *NEAEHL*. Jerusalem, 937-8.

Erickson-Gini, T. and Israel, Y. 2013: Excavating the Nabataean Incense Road. *Journal of Eastern Mediterranean Archaeology and Heritage Studies 1*, 24-53.

Farnum, J.H. 2005: *The Positioning of the Roma Imperial Legions*. Oxford.

Ferrill, A. 1991: *Roman Imperial Grand Strategy*. Boston.

Fischer, M. et al. 2000: *En Boqeq: Excavations in an Oasis on the Dead Sea. Volume II: The Officina – An Early Roman Building on the Dead Sea Shore*. Mainz.

- 2012: *Horvat Mesad: A Waystation on the Jaffa-Jerusalem Road*. Tel Aviv.

Fossey, J.M. 1992: The Development of Some Defensive Networks in Eastern Central Greece during the Classical Period In: Van De Maele, S. and Fossey, J.M. (eds.): *Fortificationes Antiquae*, 109-132.

Fritz, V. 1973: The Roman Fortress. In: Aharoni, Y. (ed.) *Beer-Sheba I*. Tel Aviv, 83-89.

Fuhrmann, C.J. 2012: *Policing the Roman Empire: Soldiers, Administration, and Public Order*. Oxford.

Gichon, M. 1967: Idumea and the Herodian Limes. *Israel Exploration Journal*, 27-42.

- 1971: The Military Significance of Certain Aspects of Limes Palaestinae. In: Applebaum, S. (ed.): Roman Frontier Studies 1967: Proceedings of VII$^{th}$ International Congress. Jerusalem, 191-200.

- 1974: The Towers on the Limes Palaestinae – form, purpose, terminology and comparison. In: Pippidi, D.M. (ed.) *Actes de IXe Congrès d'Études sur les Frontièrs Romaines 1972*. Bucharest, 513-544.

- 1975: The Sites of the The Limes in The Negev. *Eretz Israel 12*, 149-166. (in Hebrew)

- 1989: Estimating the Strength of Quadriburgia Garrisons, Exemplified by En Boqeq in the Negev In: French, D.H. and Lightfoot, C.S. (eds.): *The Eastern Frontier of the Roman Empire: Proceedings of a Colloquium held at Ankara 1988*, 121-142.

- 1991: When and Why Did the Romans Commence Defense of Southern Palestine? In: Maxfield, V.A. and Dobson, M.J. (eds.): *Roman Frontier Studies 1989: Proceedings of the XV$^{th}$ International Congress of Roman Frontier Studies*. Exeter, 318-325.

- 2002: 45 years of research on the Limes Palaestinae – the findings and their assessment in the light of criticism raised (C1st – C4th). In: Freeman et al. (eds.) *Limes XVIII: Proceedings of the XVIIIth International Congress of Roman Frontier Studies held in Amman, Jordan (September 2000)*, 185-206.

Gietl, R., Doneus, M. and Fera, M. 2008: Cost Distance Analysis in Alpine Environment: Comparison of Different Cost-Surface Modules. In: Posluschny, A. et al. (eds.*): CAA 2007 – Layers of Perception, 35th Conference on Computer Applications and Quantitative Methods in Archaeology*. Bonn, CD-ROM.

GIS Dictionary. Retrieved from: http://support.esri.com/en/knowledgebase/GISDictionary/

Goodman, M. 1987: *The Rulling Class of Judaea: The Origins of Jewish Revolt against Rome A.D. 66-70*. Cambridge.

Gracey, M. 1986: The Armies of the Judaean Client Kings In: Freeman, P. and Kennedy, D. (eds.): *The Defense of the Roman and Byzantine East: Proceedings of a colloquium held at the University of Sheffield in April 1986*, Oxford. 311-323.

Guvrin, Y. 1985: Negev Emergency Survey: Survey of Map 140 - Horvat Kasif. *Hadashot Arkheologiyot 86*, 38-9. (in Hebrew)

- 1993: *Map of Nahal Yattir (139)*. Jerusalem.

Hall, J. K. et al. 2005: *Geological Framework of the Levant: Vol. 2 The Levantine Basin and Israel*. Jerusalem.

Herzog, Z. 1984: *Beer-Sheba II: The Early Iron Age Settlements*. Tel Aviv.

- 1993: Beersheva. In: Stern, E. (ed.): *NEAEHL*. Jerusalem, 167-173.

Herzog, Z. et al. 1984: The Israelite Fortress at Arad. *BASOR* 254, 1-34.

- 1989: *Excavations at Tel Michal, Israel*. Tel Aviv.

Hirschfeld, Y. 1998: Early Roman Manor Houses and the site of Khirbet Qumran. *Journal of Near Eastern Studies 57*, 161-189.

Hirschfeld, Y. et al. 2000: *Ramat Hanadiv Excavations: Final Report of the 1984-1998 Seasons*. Jerusalem.

Hoehner, H.W. 1972: *Herod Antipas*. Cambridge.

Horbury, W., Davies, W.D. and Sturdy, J. (eds.) 1999: *The Cambridge History of Judaism, Vol III: The Early Roman Period*. Cambridge.

Isaac, B. 1989: Luttwak's 'Grand Strategy' and the Eastern Frontier of the Roman Empire In: French, D.H. and Lightfoot, C.S. (eds.): *The Eastern Frontier of the Roman Empire: Proceedings of a Colloquium held at Ankara 1988*, 231-4.

- 1991: The Roman Army in Judaea: Police Duties and Taxation. In: Maxfield, V.A. and Dobson, M.J. (eds.): *Roman Frontier Studies 1989: Proceedings of the XV$^{th}$ International Congress of Roman Frontier Studies*. Exeter, 458-461.

- 1998: Bandits in Judaea and Arabia In: Isaac, B. *Near East under Roman Rule: Selected Papers*, 122-158.

- 2000: *The Limits of Empire: The Roman Army in the East*. Oxford.

Isaac, B. et al. 1996: *Roman Roads in Judaea II: The Jaffa-Jerusalem Road*. Oxford.

Isaac, B. and Roll, I. 1979: Legio II Traiana in Judaea. *Zeitschrift für Papyrologie und Epigraphik 33*, 149-156.

Kantner, J. 2012: Realism, Reality and Routes: Evaluating Cost-Surface and Cost-Paths Algorithms. In: White, D.A. and Surface-Evans, S.L. (eds.): *Least Cost Analysis of Social Landscapes*. Ann Arbor, 225-238.

Kasher, A. 1988: *Jews, Idumaeans and Ancient Arabs: Relations of the Jews in Eretz-Israel with the Nations of the Frontier and the Desert during the Hellenistic and Roman Era (332 BCE - 70 CE)*. Tübingen.

Katz, S.T. 2006: *The Cambridge History of Judaism, Vol. IV: The Late Roman-Rabbinic Period*. Cambridge.

Kennedy, D. 2004: *The Roman Army in Jordan*. London.

Keppie, L.J.F. 1973: The Legionary Garrison of Judaea under Hadrian. *Latomus 32*, 859-864.

Kindler, A. 1973: The Coins. In: Aharoni, Y. (ed.) *Beer-Sheba I*. Tel Aviv, 90-96.

Kloner, A. 1996: Stepped Roads in Roman Palestine. *ARAM 8*, 111-137.

Kochavi, M. 1972: *Judaea, Samaria and Golan: Archaeological Survey of 1968*. Jerusalem. (in Hebrew)

Kokkinos, N. 1998: *The Herodian Dynasty: Origins, Role in Society and Eclipse*. Sheffield.

Kushnir-Stein, A. and Gitler, H. 1994: Numismatic evidence from Tel Beer-Sheva and the beginning of Nabatean coinage. *Israel Numismatic Journal* 12/1992-3, 13-20.

Loots, L. et al. 1999: Fuzzy Viewshed Analysis of the Hellenistic City Defence System at Sagalassos, Turkey. In: Dingwall, L. et al. (eds.*): Proceeding of the 25th Anniversary CAA held at the University of Birmingham, April 1997*. Oxford, retrieved from:

http://proceedings.caaconference.org/

Luttwak, E.N. 1976: *The Grand Strategy of Roman Empire: From the First Centruy A.D. to the Third*. Baltimore and London.

Magen, Y. 2008: *Judea and Samaria Researches and Discoveries*. Jerusalem.

Magness, J. 2003: *The Archaeology of the Early Islamic Settlement in Palestine*. Winona Lake.

Marshak, A.K. 2012: Rise of the Idumeans: Ethnicity and Politics in Herod's Judea In: Eckhart, B. (ed.): *Jewish Identity and Politics between the Maccabees and Bar Kokhba: Groups, Normativity, and Rituals*, 117-130.

Maxfield, V.A. 2005: Organisation of a Desert Limes: the Case of Egypt. In: Visy, Z (ed.): *Limes XIX: Proceedings of XIX$^{th}$ International Congress of Roman Frontier Studies held in Pécs, Hungary, September 2003*. Pécs, 201-8.

Millar, F. 1993: *The Roman Near East, 31 BC – AD 337*. Cambridge and London.

Mirković, M. 1991: Beneficiarii Consularis and the new outpost in Sirmium. In: Maxfield, V.A. and Dobson, M.J. (eds.): *Roman Frontier Studies 1989: Proceedings of the XV$^{th}$ International Congress of Roman Frontier Studies*. Exeter, 252-6.

Möller, C. and Schmitt, G. 1976: *Siedlungen Palästinas nach Flavius Josephus*. Wiesbaden.

Mor, M. 1986: The Roman Army in Eretz-Israel in the Years AD 70-135 In: French, D.H. and Lightfoot, C.S. (eds.): *The Eastern Frontier of the Roman Empire: Proceedings of a Colloquium held at Ankara 1988*, 575-602.

Nelis-Clément, J. 2000: *Les beneficiarii: Militaires et administrateurs au service de l'Empire (Ier s. a.C. - VIe s. p.C.)*. Bordeaux.

Netzer, E. 1981: *Greater Herodium*. Jerusalem.

- 2006: *The Architecture of Herod the Great Builder*. Tübingen.

Parker, T.S. (ed.) 1987: *The Roman Frontier in Central Jordan: An Interim Report on the Limes Arabicus Project, 1980-1985*. Oxford.

Peltiel, E. 1991: *Vassals and Rebels in the Roman Empire: Julio-Claudian Policies in Judaea and the Kingdoms of the East*. Bruxelles.

Price, J. 1992: *Jerusalem under Siege: The Collapse of the Jewish State, 66-70 C.E*. Leiden.

Richardson, P. 1996: *Herod: King of the Jews and Friend of the Romans*. Columbia.

Richmond, I.A. 1962: The Roman Siege-works of Masada. *Journal of Roman Studies 52*, 142-155.

Riklin, S. 1997: Tower-courtyard forts in the light of the finds at Ofarim. *Atiqot 32*, 95-8. (in Hebrew)

Rocca, S. 2008: *Herod's Judaea: A Mediterranean State in the Classical World*. Tübingen.

- 2009: *The Army of Herod the Great*. Oxford.

Roll, I. 1974: Routes Romaines an Israël. In: Pippidi, D.M. (ed.) *Actes de IXe Congrès d'Études sur les Frontièrs Romaines 1972*. Bucharest, 503-511.

- 2005: Terrestrial Transportation of the Roman Army in the East: The Case Judaea/Palaestina and its Road Network, In: Visy, Z (ed.): *Limes XIX: Proceedings of XIX$^{th}$ International Congress of Roman Frontier Studies held in Pécs, Hungary, September 2003*. Pécs, 749-758.

Roller, D.W. 1998: *The Building Program of Herod the Great*. Berkeley.

Segal, A. et al. 2014: *Excavations of the Hellenistic Site in the kibbutz Sha'ar-Ha'Amaqim (Gaba) 1984-1998 Final Report*. Haifa.

Schäfer, P. 2003: *The History of the Jews in the Greco-Roman World*. London.

Schwart, D. 1990. *Agrippa I: The Last King of Judaea*. Tübingen.

Shatzman, I. 1983: The Beginning of the Roman Defensive System in Judaea. *American Journal of Ancient History* 8, 130-160.

- 1991: *The Armies of the Hasmoneans and Herod the Great*. Tübingen.

Sidebotham, S.E. 1991: A Limes in the Eastern Desert of Egypt: A Myth or Reality? In: Maxfield, V.A. and Dobson, M.J. (eds.): *Roman Frontier Studies 1989: Proceedings of the XV$^{th}$ International Congress of Roman Frontier Studies*. Exeter, 494-7.

- 1997: The Roman Frontier in the Eastern Desert of Egypt. In: Groenman-Van Waateringe, W. et al. (eds.): *Roman Frontier Studies 1995: Proceedings of the XVIth International Congress of Roman Frontier Studies*. Oxford, 503-9.

Southern, P. 1990: Signals versus Illumination on Roman Frontiers. *Britannia 21*, 233-242.

Spaul, J.E.H. 1994: *Ala: The Auxiliary Cavalry Units of pre-Diocletianic Imperial Roman Army*. Andover.

- 2000: *Cohors: The Evidence for and a short history of the auxiliary infantry units of the Imperial Roman Army*. Oxford.

Tahal, G. 2000: Khirbet Amra. *Excavations and surveys in Israel 20*, 124-6.

Tal, O. forthcoming: *The Summary: The Hellenistic, Roman and Byzantine Period Settlement*. In: Tel Malhata. Tel Aviv.

Thareani, Y. 2007: Ancient Caravanserai: An Archaeological View from Aroer. *Levant 39*, 123-142.

Thareani, Y. et al. 2011: *Tel Aroer: The Iron Age II Caravan Town and Hellenistic-Early Roman Settlement.* Tel Aviv.

Topouzi, S et al. 2000: The Application of Viewshed Analysis in Greek Archaeological Landscape. *6th Annual Meeting of the European Association of Archaeologists, Lisbon, Portugal*, 1-15.

Tzaferis, V. 1974: Tower and Fortress near Jerusalem. *Israel Exploration Journal 24*, 85-94.

Wheatly, D. 2004: Making space for archaeology of place. *Internet Archaeology 15*, retrieved from: http://dx.doi.org/10.11141/ia.15.10

Wheatly, D. and Gilings, M. 2002: *Spatial Technology and Archaeology: The Archaeological Applications of GIS*. London and New York.

Wheeler, E. 2007: The Army and the Limes in the East. In: Erdkamp, P. (ed.): *A Companion to the Roman Army*. Oxford, 235-266.

Woolliscroft, D.J. 2001: *Roman Military Signaling*. Stroud.

Yadin, Y. 1967: Masada and the Limes. *Israel Exploration Journal 17*, 43-6.